NAME OF WORK : **Improvements to Roads and Drains at Virupakshapura, Bhudha Jyothi Layout Kodigenahalli , Maruthi Layout and Surrounding Areas in Ward No. 09, Vidyaranyapura**

Quality Control Reports

First and Final Bill

(Book No.01)

QC ABSTRACT

NAME OF WORK: Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

SL NO	Item Of Work	Name of Test	Frequency of Test/Quantity	Executed Quantity	Number of Tests Required	Number of Tests Conducted
		Materials				
1	Cement	Fineness by dry sieving	One Test		1	1
		Finess by Air permeablity method	One Test		1	1
		Density	One Test		1	1
		Standard Consistency	One Test		1	1
		Initial Setting time	One Test		1	1
		Final Setting time	One Test		1	1
		Soundness (Le Chatelier's Method)	One Test		1	1
		Compressive Strength	One Test		1	1
2	Coarse aggregate(40 mm down size)	SIEVE ANALYSIS	One Test		1	1
		Flakiness Index	One Test		1	1
		Elongation Index	One Test		1	1
		Specific Gravity	One Test		1	1
		Bulk Density(Loose)	One Test		1	1
		Bulk Density(Compacted)	One Test		1	1
		Water Absorption	One Test		1	1
3	Coarse aggregate(20 mm down size)	SIEVE ANALYSIS	One Test		1	1
		Flakiness Index	One Test		1	1
		Elongation Index	One Test		1	1
		Specific Gravity	One Test		1	1
		Bulk Density(Loose)	One Test		1	1
		Bulk Density(Compacted)	One Test		1	1
		Water Absorption	One Test		1	1
		Aggregate crushing Value	One Test		1	1
		Aggregate Impact Value	One Test		1	1
4	Fine aggregate	SIEVE ANALYSIS	One Test		1	1
		Water Absorption	One Test		1	1
		Specific Gravity	One Test		1	1
		Material finer than 75 micron	One Test		1	1
5	Steel	Bend test	One Test		1	1
		Tensile Test	One Test		1	1
		Yield Test	One Test		1	1
		ReBend test	One Test		1	1
6	Block(400*150*200)	BLOCK DENSITY	One Test		1	1
		WATER ABSORPTION	One Test		1	1
		DIMENSION ANALYSIS	One Test		1	1
		COMPRESSIVE STRENGTH	One Test		1	1
7	Precast (100mm)	Core Compressive Strength	One Test		1	1
		Corrected Cylinder Compressive Strength	One Test		1	1
		Equivalent Cube Compressive Strength	One Test		1	1
8	Precast (250mm)	Core Compressive Strength	One Test		1	1
		Corrected Cylinder Compressive Strength	One Test		1	1
		Equivalent Cube Compressive Strength	One Test		1	1

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9	PCC(M15)	Compressive Strength(7days and 28days)	7 set /200-250 cum	232.39	14	14
10	RCC(M20)	Compressive Strength(7days and 28days)	20 set /600-650 cum	631.83	40	40
11	Cement Concrete Pavemet (M30)	Compressive Strength(7days and 28days)	5 set /31-100 cum	55.83	10	10
12	WMM	Sieve Analysis	One Test		1	1
		Impact Value	One Test		1	1
		Flakiness Index	One Test		1	1
		Elongation Index	One Test		1	1
		Compressive Strength(7days and 28days)	4sets/30-100 cum	37.1	1	1
13	DBM	SIEVE ANALYSIS	One Test		1	1
		STRIPPING VALUE	One Test		1	1
		Flakiness Index	One Test		1	1
		Elongation Index	One Test		1	1
		IMPACT VALUE	One Test		1	1
		Specific gravity	One Test		1	1
		Water Absorption	One Test		1	1
		Marshal Stability	One Test		1	1
		Marshal flow	One Test		1	1
		Percent air Voids	One Test		1	1
		Percent Voids in mineral Aggregate	One Test		1	1
		Percent Voids filled with Bitumen	One Test		1	1
		Density	One Test		1	1
		Gradation	One Test		1	1
		Compressive Strength(7days and 28days)	One Test	4.37	1	1
14	BC	SIEVE ANALYSIS	One Test		1	1
		STRIPPING VALUE	One Test		1	1
		Flakiness Index	One Test		1	1
		Elongation Index	One Test		1	1
		IMPACT VALUE	One Test		1	1
		Specific gravity	One Test		1	1
		Water Absorption	One Test		1	1
		Marshal Stability	One Test		1	1
		Marshal flow	One Test		1	1
		Percent air Voids	One Test		1	1
		Percent Voids in mineral	One Test		1	1
		Percent Voids filled with Bitumen	One Test		1	1
		Density	One Test		1	1
		Gradation	One Test		1	1
15	BITUMEN	Ductility	One Test		1	1
		Softening Point	One Test		1	1
		Penetration	One Test		1	1
		Flash Point	One Test		1	1
		Fire Point	One Test		1	1
16	TACK COAT	Rate of spread	One Test		1	1

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TEST REPORT OF FINE AGGREGATE

Lab ID : **CP-2022-08-22-01** **Date: 24-08-2022**

Project Name : Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

Agency : Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Source of Sample : Ganesh Nagar

Date of Receipt : 22-08-2022

Sample Type : Fine Aggregate (M-Sand)

Reference to BIS codes : IS 383 : 2016 (Specification for Coarse and fine Aggregates)
IS: 2386 :1963(Part - 1, 3) RA2012
IS 2386 Part 1: Particle Size and Shape
IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption

Date of test : 22-08-2022

Total weight taken : 1000 grams

Sl.no	Sieve Size	Weight Retained (gms)	Cumulative Weight Retained (gms)	% Cumulative Weight Retained	% Passing	Requirement as per IS 383:2016			
						Grading Zone I	Grading Zone II	Grading Zone III	Grading Zone IV
1	10 mm	0	0	0.0	100.0	100	100	100	100
2	4.75 mm	18	18	1.8	98.2	90-100	90-100	90-100	95-100
3	2.36 mm	44	62	6.2	93.8	60-95	75-100	85-100	95-100
4	1.18 mm	212	274	27.4	72.6	30-70	55-90	75-100	90-100
5	600 micron	215	489	48.9	51.1	15-34	35-59	60-79	80-100
6	300 micron	215	704	70.4	29.6	5-20	8-30	12-40	15-50
7	150 micron	212	916	91.6	8.4	0-10	0-10	0-10	0-15
8	Pan	84	1000	100.0	0.0	---	---	---	---

Result :The tested Sample Conforms to Grading Zone II

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TEST REPORT OF FINE AGGREGATE

Lab ID : **CP-2022-08-22-01** **Date: 24-08-2022**

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS 383:2016
1	Water Absorption(%)	2.78	–
2	Specific Gravity	2.54	–
3	Material finer than 75 micron(%)	8.4	Uncrushed fine Aggregate Max 3%, Crushed Fine aggregate Max 15%, Mixed Fine aggregate Max 12%, Manufactured Fine aggregate Max 10%

* The results obtained are satisfactory as per standard requirements.

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Authorized Signatory
Quality Manager

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TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2022-08-22-01** **Date: 24-08-2022**
Project Name	:	Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)
Agency	:	Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024
Customer Reference	:	BBMP/EE/BTP/WO/63/2022-23
Source of Sample	:	Ganesh Nagar
Date of Receipt	:	22-08-2022
Sample Type/ Size	:	20mm down size coarse aggregate
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2021 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties
Date of test	:	22-08-2022

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 20MM DOWN COARSE AGGREGATE:

Total weight taken : 5000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	40 mm	0	0	0	100	100
2	20 mm	255	255	5.1	94.9	90-100
3	10 mm	2789	3044	60.9	39.1	25-55
4	4.75 mm	1545	4589	91.8	8.2	0-10
5	Pan	411	5000	100	0	–

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TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2022-08-22-01** **Date: 24-08-2022**

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	10.3	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	11.7	
3	Specific Gravity	2.68	_
4	Bulk Density(Loose) (Kg/l)	1.51	_
5	Bulk Density(Compacted) (Kg/l)	1.55	_
6	Water Absorption(%)	0.28	_
7	Aggregate crushing Value(%)	25.1	Max 30% for Aggregates to be used in concrete for wearing Surface, In case Aggregate Crushing Value Exceeds 30% then the test for ten percent fines should be conducted for Aggregates to be used in concrete other than for wearing Surface.
8	Aggregate Impact Value(%)	23.8	30% for Aggregates to be used in concrete for wearing Surface, 45% for Aggregates to be used in concrete other than for wearing Surface.

* The results obtained are satisfactory as per standard requirements.

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R KARTHIK RECHAN
Authorized Signature
Quality Manager

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TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2022-08-22-01**	**Date: 25-08-2022**
Project Name	:	Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)	
Agency	:	Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024	
Customer's Reference	:	BBMP/EE/BTP/WO/63/2022-23	
Date of Receipt	:	22-08-2022	
Sample Type	:	40mm down size coarse aggregate	
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2021 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties	
Date of test	:	22-08-2022	

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 40MM DOWN COARSE AGGREGATE:

Total weight taken : 15000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	80 mm	0	0	0.0	100	100
2	40 mm	1223	1223	8.2	91.8	90-100
3	20 mm	5972	7195	48.0	52.0	30-70
4	10 mm	5575	12770	85.1	14.9	10-35
5	4.75 mm	1873	14643	97.6	2.4	0-5
6	Pan	357	15000	100.0	0	---

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TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2022-08-22-01** **Date: 25-08-2022**

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	10.8	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	11.6	
3	Specific Gravity	2.62	_
4	Bulk Density(Loose) (Kg/l)	1.47	_
5	Bulk Density(Compacted) (Kg/l)	1.51	_
6	Water Absorption(%)	0.22	_

* The results obtained are satisfactory as per standard requirements.

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Authorized Signatory
Quality Manager

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TEST RESULTS OF STEEL

Lab ID : **CP-2022-08-22-01** **Date: 23-08-2022**

Project Name : Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

Agency : Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Source of Sample : Ganesh Nagar

Date of Receipt : 22-08-2022

Sample Type : A One Gold

Reference to BIS codes : IS 1786-2008, IS:1608-2005(RA 2011), IS 1599-2019.

Date of test: : 22-08-2022

Sl.No	Identification of sample	Grade of the sample	Diameter of the steel bar	Weight of the sample	Yield stress	Tensile strength	Elongation	Bend test	Rebend test
			(mm)	(kg/m)	(N/mm2)	(N/mm2)	(%)		
1	A One Gold	Fe550	8	0.395	598	685	20.0%	Satisfactory	Satisfactory
2	A One Gold	Fe550	10	0.616	568	659	20.0%	Satisfactory	Satisfactory
3	A One Gold	Fe500	12	0.887	575	689	20.0%	Satisfactory	Satisfactory

* The results obtained are satisfactory as per standard requirements.

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Certificate No.: TC-5548

Spectro Chemical Analysis, Physical, Non Destructive All Type of Metal Testing

Lab ID : **CP-2022-08-22-01** **Date: 25-08-22**

Project Name : Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

Agency : Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Source of Sample : Ganesh Nagar

Date of Receipt : 22-08-22

Sample Type / Grade : A One Gold

Date of test : 22-08-22

CHEMICAL ANALYSIS

Sl. No.	Chemical Contents	8mm	10mm	12mm	Max. Limits as per IS:1786-2008, Gr. Fe 550
1	Carbon (C) %	0.125	0.129	0.148	0.300 Max
2	Phosphor (P) %	0.039	0.043	0.048	0.050 Max
3	Sulphur (S) %	0.042	0.048	0.051	0.055Max
4	Sulphur & Phosphorus %	0.059	0.063	0.076	0.100 Max

Note : The above material confirms to ASI S S 304 with respect to elements analysed

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TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID	:	**CP-2022-08-22-01** **Date: 25-08-2022**
Project Name	:	Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)
Agency	:	Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024
Customer's Reference	:	BBMP/EE/BTP/WO/63/2022-23
Source of Sample	:	Ganesh Nagar
Date of Receipt	:	22-08-2022
Sample Type	:	Dalmia 53grade
Reference to BIS codes	:	IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification , IS 4031 (Part 1,2 3,4,5, 6,11):1988 IS 4031 Part 1 (RA 2021) DETERMINATION OF FINENESS BY DRY SIEVING, Clause 4.4 IS 4031 Part 2, (RA 2018) Determination of Fineness by Blaine Air Permeability IS 4031 Part 3, (RA 2019) Determination of Soundness, Clause 5, Clause 6 IS 4031 Part 4, (RA 2019) Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 5, (RA 2019) Determination of Initial & Final Setting Time, Clause 5 IS 4031 Part 11, (RA 2019)DETERMINATION OF DENSITY , Clause 6
Date of test	:	23-08-2022
Environmental Conditions during test	:	Temperature: 26°C Humidity: 72%

Sl.No.	Physical properties	Results	Requirement as per IS 12269: 2013
1	Fineness by dry sieving (%)	2.14	–
2	Finess by Air permeablity method (m^2/kg,Min)	293.2	225m^2/kg, Min
3	Density (gm/cc)	3.14	–
4	Standard Consistency (%)	29.5%	Not specified
5	Initial Setting time	175 minutes	Not less than 30 minutes
6	Final Setting time	280 minutes	Not more than 600 minutes
7	Soundness (Le Chatelier's Method)	2.5mm	Not more than 10 mm

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID	:	**CP-2022-08-22-01** **Date: 20-09-2022**
Project Name	:	Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)
Agency	:	Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024
Customer's Reference	:	BBMP/EE/BTP/WO/63/2022-23
Source of Sample	:	Ganesh Nagar
Date of Receipt	:	22-08-2022
Sample Type	:	Dalmia 53grade
Reference to BIS codes	:	IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification , IS 4031 Part 4, (RA 2019) Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 6, (RA 2019) Determination of Compressive Strength, Clause 6
Date of test	:	23-08-2022
Environmental Conditions during test	:	Temperature: 26°C Humidity: 72%

Compressive Strength

Sl.No.	Physical properties	Results	Requirement as per IS 12269: 2013
1	3 Days	28.5N/mm^2	Not less than 27 N/mm^2
2	7 Days	39.0N/mm^2	Not less than 37 N/mm^2
3	28 Days	58.5N/mm^2	Not less than 53 N/mm^2

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT ON PHYSICAL REQUIREMENTS OF SOLID CONCRETE BLOCKS

Lab ID	:	**CP-2022-08-22-05** **Date: 26-08-22**
Project Name	:	Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)
Agency	:	Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024
Customer's Reference	:	BBMP/EE/BTP/WO/63/2022-23
Source of Sample	:	Ganesh Nagar
Date of Receipt	:	22-08-22
Sample Type/Size	:	Solid concrete blocks size (400X150X200)mm
Reference to BIS codes	:	IS : 2185 (Part 1) : 2005(RA 2020) Concrete Masonry Specification Part 1:Hollow and Solid Concrete Blocks (Dimensions -Annex-B, Clause 9.2 and 10 , Block density Annex -C Clause 9.3 and10, Compressive strength Annex -D Clause 9.4 and 10, Water absorption Annex -E Clause 9.5 and 10)
Date of test	:	22-08-22

BLOCK DENSITY:

Sl. No.	Measurement of overall Dimensions of Individual Blocks			Overall Volume of the Block in Cubic Centimetres	Weight of Oven Dried Block in Kilograms to the nearest 10 Gram	Block Density in Kg/cum*10^6	Avg.Block Density in (Kg/cum)	As per IS 2185(Part 1) :2005 (RA 2010)
	Length	Breadth	Height					
	mm	mm	mm	(Cm^3)	Kg	Kg/m^3	Kg/m^3	
1	399	152	201	12190	21.330	1749.7	1866.8	Not less than 1800Kg/m^3
2	403	148	198	11810	22.117	1872.8		
3	402	152	198	12099	23.928	1977.7		

WATER ABSORPTION:

Sl. No.	Wet weight after water absorption	Dry weight (Oven dry)	Water Absorption	Avg.Water Absorption	As per IS 2185(Part 1):2005 (RA 2010)
	kg	kg	%	%	
1	33.91	32.25	4.89	4.25	Shall not be more than 10% by mass
2	33.57	32.14	4.28		
3	33.44	32.24	3.59		

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Lab ID : **CP-2022-08-22-05** **Date: 26-08-22**

DIMENSION ANALYSIS

Sl.no	Length mm	Breadth mm	Height mm	Requirement as per IS 2185(Part 1):2005
1	402	153	203	Length : ± 5mm Breadth : ± 3mm Height : ± 3mm
2	403	152	200	
3	404	149	201	
4	400	151	203	
5	404	151	200	
6	402	150	203	
7	404	152	200	
8	401	150	200	
9	399	152	202	
10	404	152	202	
11	403	150	203	
12	400	150	200	
13	402	153	203	
14	402	149	202	
15	401	152	201	
16	404	151	202	
17	400	152	203	
18	404	153	200	
19	401	150	203	
20	402	150	200	
Average of 20	**402**	**151**	**202**	

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Lab ID : **CP-2022-08-22-05** **Date: 26-08-22**

COMPRESSIVE STRENGTH:

Sl. No.	Size of solid block		Area	Failure Load	Compressive strength	Average Compressive strength
	Length	Breadth				
	mm	mm	(mm^2)	(KN)	N/mm^2	(N/mm^2)
1	400	153	61177	285.6	4.7	4.7
2	403	152	61191	282.1	4.6	
3	404	149	60369	286.2	4.7	
4	400	151	60525	285.9	4.7	
5	404	151	60817	290.1	4.8	
6	402	151	60626	290.1	4.8	
7	404	152	61323	287.8	4.7	
8	401	150	60315	283.8	4.7	

As per IS Requirements (Table 2, Clause 5.1, 5.2 and 9.4)

Compressive strength		
Grade	**Minimum average**	**Minimum Individual units.**
C (5.0)	5.00 N/mm^2	4.00 N/mm^2
C (4.0)	4.00 N/mm^2	3.20 N/mm^2

* The Results Obtained are Satisfactory as per Standard Requirements

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TEST RESULTS OF STEEL

Lab ID : **CP-2022-08-22-01** **Date: 24-08-2022**

Project Name : Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

Agency : Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Source of Sample : Ganesh Nagar

Date of Receipt : 23-08-2022

Sample Type : A One Gold

Reference to BIS codes : IS 1786-2008, IS:1608-2005(RA 2011), IS 1599-2019.

Date of test: : 23-08-2022

Sl.No	Identification of sample	Grade of the sample	Diameter of the steel bar	Weight of the sample	Yield stress	Tensile strength	Elongation	Bend test	Rebend test
			(mm)	(kg/m)	(N/mm2)	(N/mm2)	(%)		
1	A One Gold	Fe550	8	0.395	568	659	20.0%	Satisfactory	Satisfactory
2	A One Gold	Fe550	10	0.617	582	679	20.0%	Satisfactory	Satisfactory
3	A One Gold	Fe500	12	0.888	593	689	20.0%	Satisfactory	Satisfactory

* The results obtained are satisfactory as per standard requirements.

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Spectro Chemical Analysis, Physical, Non Destructive All Type of Metal Testing

Lab ID : **CP-2022-08-22-01** **Date: 26-08-22**

Project Name : Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

Agency : Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Source of Sample : Ganesh Nagar

Date of Receipt : 23-08-22

Sample Type / Grade : A One Gold

Date of test : 23-08-22

CHEMICAL ANALYSIS

Sl. No.	Chemical Contents	8mm	10mm	12mm	Max. Limits as per IS:1786-2008, Gr. Fe 550
1	Carbon (C) %	0.123	0.132	0.152	0.300 Max
2	Phosphor (P) %	0.036	0.043	0.045	0.050 Max
3	Sulphur (S) %	0.038	0.039	0.045	0.055Max
4	Sulphur & Phosphorus %	0.069	0.072	0.078	0.100 Max

Note : The above material confirms to ASI S S 304 with respect to elements analysed

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TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID	:	**CP-2022-08-22-01** **Date: 26-08-2022**
Project Name	:	Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)
Agency	:	Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024
Customer's Reference	:	BBMP/EE/BTP/WO/63/2022-23
Source of Sample	:	Ganesh Nagar
Date of Receipt	:	23-08-2022
Sample Type	:	Dalmia 53grade
Reference to BIS codes	:	IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification , IS 4031 (Part 1,2 3,4,5, 6,11):1988 IS 4031 Part 1 (RA 2021) DETERMINATION OF FINENESS BY DRY SIEVING, Clause 4.4 IS 4031 Part 2, (RA 2018) Determination of Fineness by Blaine Air Permeability IS 4031 Part 3, (RA 2019) Determination of Soundness, Clause 5, Clause 6 IS 4031 Part 4, (RA 2019) Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 5, (RA 2019) Determination of Initial & Final Setting Time, Clause 5 IS 4031 Part 11, (RA 2019)DETERMINATION OF DENSITY , Clause 6
Date of test	:	24-08-2022
Environmental Conditions during test	:	Temperature: 26°C Humidity: 72%

Sl.No.	Physical properties	Results	Requirement as per IS 12269: 2013
1	Fineness by dry sieving (%)	2.34	–
2	Finess by Air permeablity method (m^2/kg,Min)	295.1	225m^2/kg, Min
3	Density (gm/cc)	3.15	–
4	Standard Consistency (%)	28.0%	Not specified
5	Initial Setting time	195 minutes	Not less than 30 minutes
6	Final Setting time	290 minutes	Not more than 600 minutes
7	Soundness (Le Chatelier's Method)	1.5mm	Not more than 10 mm

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID	:	**CP-2022-08-22-01** **Date: 21-09-2022**
Project Name	:	Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)
Agency	:	Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024
Customer's Reference	:	BBMP/EE/BTP/WO/63/2022-23
Source of Sample	:	Ganesh Nagar
Date of Receipt	:	23-08-2022
Sample Type	:	Dalmia 53grade
Reference to BIS codes	:	IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification , IS 4031 Part 4, (RA 2019) Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 6, (RA 2019) Determination of Compressive Strength, Clause 6
Date of test	:	24-08-2022
Environmental Conditions during test	:	Temperature: 26°C Humidity: 72%

Compressive Strength

Sl.No.	Physical properties	Results	Requirement as per IS 12269: 2013
1	3 Days	28.9N/mm^2	Not less than 27 N/mm^2
2	7 Days	38.6N/mm^2	Not less than 37 N/mm^2
3	28 Days	55.8N/mm^2	Not less than 53 N/mm^2

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2022-08-23-01** **Date: 26-08-2022**
Project Name	:	Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)
Agency	:	Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024
Customer's Reference	:	BBMP/EE/BTP/WO/63/2022-23
Date of Receipt	:	23-08-2022
Sample Type	:	40mm down size coarse aggregate
Source of Sample	:	Ganesh Nagar
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2021 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties
Date of test	:	23-08-2022

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 40MM DOWN COARSE AGGREGATE:

Total weight taken : 15000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	80 mm	0	0	0.0	100	100
2	40 mm	244	244	1.6	98.4	90-100
3	20 mm	5432	5676	37.8	62.2	30-70
4	10 mm	4332	10008	66.7	33.3	10-35
5	4.75 mm	4654	14662	97.7	2.3	0-5
6	Pan	338	15000	100.0	0	---

Ward No. 09

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TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2022-08-23-01** **Date: 26-08-2022**

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	12.4	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	11.8	
3	Specific Gravity	2.68	_
4	Bulk Density(Loose) (Kg/l)	1.48	_
5	Bulk Density(Compacted) (Kg/l)	1.52	_
6	Water Absorption(%)	0.22	_

* The results obtained are satisfactory as per standard requirements.

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Quality Manager

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TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2022-08-22-01** **Date: 25-08-2022**
Project Name	:	Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)
Agency	:	Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024
Customer Reference	:	BBMP/EE/BTP/WO/63/2022-23
Source of Sample	:	Ganesh Nagar
Date of Receipt	:	23-08-2022
Sample Type/ Size	:	20mm down size coarse aggregate
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2021 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties
Date of test	:	23-08-2022

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 20MM DOWN COARSE AGGREGATE:

Total weight taken : 5000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	40 mm	0	0	0	100	100
2	20 mm	315	315	6.3	93.7	90-100
3	10 mm	2698	3013	60.3	39.7	25-55
4	4.75 mm	1632	4645	92.9	7.1	0-10
5	Pan	355	5000	100	0	_

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TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2022-08-22-01** **Date: 25-08-2022**

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	9.8	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	12.1	
3	Specific Gravity	2.62	_
4	Bulk Density(Loose) (Kg/l)	1.52	_
5	Bulk Density(Compacted) (Kg/l)	1.56	_
6	Water Absorption(%)	0.32	_
7	Aggregate crushing Value(%)	24.1	Max 30% for Aggregates to be used in concrete for wearing Surface, In case Aggregate Crushing Value Exceeds 30% then the test for ten percent fines should be conducted for Aggregates to be used in concrete other than for wearing Surface.
8	Aggregate Impact Value(%)	22.9	30% for Aggregates to be used in concrete for wearing Surface, 45% for Aggregates to be used in concrete other than for wearing Surface.

* The results obtained are satisfactory as per standard requirements.

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Quality Manager

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TEST REPORT OF FINE AGGREGATE

Lab ID : **CP-2022-08-23-01** **Date: 25-08-2022**

Project Name : Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

Agency : Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Source of Sample : Ganesh Nagar

Date of Receipt : 23-08-2022

Sample Type : Fine Aggregate (M-Sand)

Reference to BIS codes : IS 383 : 2016 (Specification for Coarse and fine Aggregates)
IS: 2386 :1963(Part - 1, 3) RA2012
IS 2386 Part 1: Particle Size and Shape
IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption

Date of test : 23-08-2022

Total weight taken : 1000 grams

Sl.no	Sieve Size	Weight Retained (gms)	Cumulative Weight Retained (gms)	% Cumulative Weight Retained	% Passing	Requirement as per IS 383:2016			
						Grading Zone I	Grading Zone II	Grading Zone III	Grading Zone IV
1	10 mm	0	0	0.0	100.0	100	100	100	100
2	4.75 mm	24	24	2.4	97.6	90-100	90-100	90-100	95-100
3	2.36 mm	68	92	9.2	90.8	60-95	75-100	85-100	95-100
4	1.18 mm	215	307	30.7	69.3	30-70	55-90	75-100	90-100
5	600 micron	203	510	51.0	49.0	15-34	35-59	60-79	80-100
6	300 micron	205	715	71.5	28.5	5-20	8-30	12-40	15-50
7	150 micron	212	927	92.7	7.3	0-10	0-10	0-10	0-15
8	Pan	73	1000	100.0	0.0	---	---	---	---

Result :The tested Sample Conforms to Grading Zone II

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TEST REPORT OF FINE AGGREGATE

Lab ID : **CP-2022-08-23-01** **Date: 25-08-2022**

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS 383:2016
1	Water Absorption(%)	1.85	–
2	Specific Gravity	2.53	–
3	Material finer than 75 micron(%)	7.3	Uncrushed fine Aggregate Max 3%, Crushed Fine aggregate Max 15%, Mixed Fine aggregate Max 12%, Manufactured Fine aggregate Max 10%

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-08-24-01** **Date: 30/08/2022**

Project Name : Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

Agency : Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 24-08-2022

Customer ID : Coping Concrete - 4th Main Road Ganesh Nagar

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M15 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 30/08/2022

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Coping Concrete - 4th Main Road Ganesh Nagar	M15	23/08/2022	30/08/2022	151.14 X 151.42 X 151.68	22886	8.352	257.0	11.2	11.8
2	Coping Concrete - 4th Main Road Ganesh Nagar	M15	23/08/2022	30/08/2022	151.45 X 150.47 X 150.88	22789	8.847	285.6	12.5	
3	Coping Concrete - 4th Main Road Ganesh Nagar	M15	23/08/2022	30/08/2022	151.04 X 151.55 X 149.05	22890	8.288	265.4	11.6	

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-08-24-01** **Date: 20/09/2022**

Project Name : Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

Agency : Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 24-08-2022

Customer ID : Coping Concrete - 4th Main Road Ganesh Nagar

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M15 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 20/09/2022

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Coping Concrete - 4th Main Road Ganesh Nagar	M15	23/08/2022	20/09/2022	149.02 X 151.75 X 149.26	22614	8.333	406.0	18.0	17.8
2	Coping Concrete - 4th Main Road Ganesh Nagar	M15	23/08/2022	20/09/2022	151.45 X 149.38 X 151.51	22623	8.815	401.9	17.8	
3	Coping Concrete - 4th Main Road Ganesh Nagar	M15	23/08/2022	20/09/2022	150.03 X 149.13 X 151.29	22374	8.774	392.7	17.6	

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2022-08-24-01** **Date: 26-08-2022**
Project Name	:	Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)
Agency	:	Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024
Customer Reference	:	BBMP/EE/BTP/WO/63/2022-23
Source of Sample	:	Ganesh Nagar
Date of Receipt	:	24-08-2022
Sample Type/ Size	:	20mm down size coarse aggregate
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2021 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties
Date of test	:	24-08-2022

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 20MM DOWN COARSE AGGREGATE:

Total weight taken : 5000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	40 mm	0	0	0	100	100
2	20 mm	325	325	6.5	93.5	90-100
3	10 mm	2568	2893	57.9	42.1	25-55
4	4.75 mm	1732	4625	92.5	7.5	0-10
5	Pan	375	5000	100	0	–

* The results obtained are satisfactory as per standard requirements.

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Quality Manager

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-08-25-01** **Date: 01/09/2022**

Project Name : Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

Agency : Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 25-08-2022

Customer ID : Coping Concrete - 7th Cross Road Ganesh Nagar

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M15 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 31/08/2022

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Coping Concrete - 7th Cross Road Ganesh Nagar	M15	24/08/2022	31/08/2022	149.86 X 150.54 X 149.58	22561	9.087	261.7	11.6	11.9
2	Coping Concrete - 7th Cross Road Ganesh Nagar	M15	24/08/2022	31/08/2022	150.51 X 149.21 X 149.15	22457	8.666	283.1	12.6	
3	Coping Concrete - 7th Cross Road Ganesh Nagar	M15	24/08/2022	31/08/2022	150.62 X 149.90 X 151.98	22579	8.630	256.4	11.4	

* The results obtained are satisfactory as per standard requirements.

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Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-08-25-01** **Date: 21/09/2022**

Project Name : Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

Agency : Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 25-08-2022

Customer ID : Coping Concrete - 7th Cross Road Ganesh Nagar

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M15 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 21/09/2022

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Coping Concrete - 7th Cross Road Ganesh Nagar	M15	24/08/2022	21/09/2022	150.82 X 150.17 X 149.61	22649	8.248	418.8	18.5	17.4
2	Coping Concrete - 7th Cross Road Ganesh Nagar	M15	24/08/2022	21/09/2022	150.18 X 149.02 X 151.87	22380	8.450	359.2	16.1	
3	Coping Concrete - 7th Cross Road Ganesh Nagar	M15	24/08/2022	21/09/2022	149.74 X 150.84 X 151.89	22587	8.429	398.8	17.7	

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT OF FINE AGGREGATE

Lab ID : **CP-2022-08-22-01** **Date: 27-08-2022**

Project Name : Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

Agency : Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Source of Sample : Siddivinayaka Nagara

Date of Receipt : 25-08-2022

Sample Type : Fine Aggregate (M- Sand)

Reference to BIS codes : IS 383 : 2016 (Specification for Coarse and fine Aggregates)
IS: 2386 :1963(Part - 1, 3) RA2012
IS 2386 Part 1: Particle Size and Shape
IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption

Date of test : 25-08-2022

Total weight taken : 1000 grams

Sl.no	Sieve Size	Weight Retained (gms)	Cumulative Weight Retained (gms)	% Cumulative Weight Retained	% Passing	Requirement as per IS 383:2016			
						Grading Zone I	Grading Zone II	Grading Zone III	Grading Zone IV
1	10 mm	0	0	0.0	100.0	100	100	100	100
2	4.75 mm	86	86	8.6	91.4	90-100	90-100	90-100	95-100
3	2.36 mm	145	231	23.1	76.9	60-95	75-100	85-100	95-100
4	1.18 mm	156	387	38.7	61.3	30-70	55-90	75-100	90-100
5	600 micron	188	575	57.5	42.5	15-34	35-59	60-79	80-100
6	300 micron	175	750	75.0	25.0	5-20	8-30	12-40	15-50
7	150 micron	162	912	91.2	8.8	0-10	0-10	0-10	0-15
8	Pan	88	1000	100.0	0.0	---	---	---	---
Result :The tested Sample Conforms to Grading Zone II									

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TEST REPORT OF FINE AGGREGATE

Lab ID : **CP-2022-08-22-01** **Date: 27-08-2022**

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS 383:2016
1	Water Absorption(%)	2.42	_
2	Specific Gravity	2.52	_
3	Material finer than 75 micron(%)	9.5	Uncrushed fine Aggregate Max 3%, Crushed Fine aggregate Max 15%, Mixed Fine aggregate Max 12%, Manufactured Fine aggregate Max 10%

* The results obtained are satisfactory as per standard requirements.

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

23.08.22

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TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2022-08-25-01** **Date: 27-08-2022**
Project Name	:	Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)
Agency	:	Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024
Customer Reference	:	BBMP/EE/BTP/WO/63/2022-23
Source of Sample	:	Siddivinayaka Nagara
Date of Receipt	:	25-08-2022
Sample Type/ Size	:	20mm down size coarse aggregate
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2021 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties
Date of test	:	25-08-2022

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 20MM DOWN COARSE AGGREGATE:

Total weight taken : 5000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	40 mm	0	0	0	100	100
2	20 mm	245	245	4.9	95.1	90-100
3	10 mm	2560	2805	56.1	43.9	25-55
4	4.75 mm	2033	4838	96.8	3.2	0-10
5	Pan	162	5000	100	0	_

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TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2022-08-25-01** **Date: 27-08-2022**

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	10.1	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	12.4	
3	Specific Gravity	2.62	_
4	Bulk Density(Loose) (Kg/l)	1.57	_
5	Bulk Density(Compacted) (Kg/l)	1.53	_
6	Water Absorption(%)	0.18	_
7	Aggregate crushing Value(%)	23.1	Max 30% for Aggregates to be used in concrete for wearing Surface, In case Aggregate Crushing Value Exceeds 30% then the test for ten percent fines should be conducted for Aggregates to be used in concrete other than for wearing Surface.
8	Aggregate Impact Value(%)	22.6	30% for Aggregates to be used in concrete for wearing Surface, 45% for Aggregates to be used in concrete other than for wearing Surface.

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2022-08-24-01** **Date: 27-08-2022**
Project Name	:	Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)
Agency	:	Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024
Customer Reference	:	BBMP/EE/BTP/WO/63/2022-23
Source of Sample	:	Ganesh Nagar
Date of Receipt	:	25-08-2022
Sample Type/ Size	:	20mm down size coarse aggregate
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2021 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties
Date of test	:	25-08-2022

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 20MM DOWN COARSE AGGREGATE:

Total weight taken : 5000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	40 mm	0	0	0	100	100
2	20 mm	298	298	6.0	94.0	90-100
3	10 mm	2613	2911	58.2	41.8	25-55
4	4.75 mm	1758	4669	93.4	6.6	0-10
5	Pan	331	5000	100	0	–

* The results obtained are satisfactory as per standard requirements.

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Quality Manager

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TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID	:	**CP-2022-08-25-01** **Date: 29-08-2022**
Project Name	:	Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)
Agency	:	Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024
Customer's Reference	:	BBMP/EE/BTP/WO/63/2022-23
Source of Sample	:	Siddivinayaka Nagara
Date of Receipt	:	25-08-2022
Sample Type	:	Dalmia 53grade
Reference to BIS codes	:	IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification , IS 4031 (Part 1,2 3,4,5, 6,11):1988 IS 4031 Part 1 (RA 2021) DETERMINATION OF FINENESS BY DRY SIEVING, Clause 4.4 IS 4031 Part 2, (RA 2018) Determination of Fineness by Blaine Air Permeability IS 4031 Part 3, (RA 2019) Determination of Soundness, Clause 5, Clause 6 IS 4031 Part 4, (RA 2019) Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 5, (RA 2019) Determination of Initial & Final Setting Time, Clause 5 IS 4031 Part 11, (RA 2019)DETERMINATION OF DENSITY , Clause 6
Date of test	:	26-08-2022
Environmental Conditions during test	:	Temperature: 26°C Humidity: 72%

Sl.No.	Physical properties	Results	Requirement as per IS 12269: 2013
1	Fineness by dry sieving (%)	2.15	–
2	Finess by Air permeablity method (m^2/kg,Min)	282.2	225m^2/kg, Min
3	Density (gm/cc)	3.15	–
4	Standard Consistency (%)	29.0%	Not specified
5	Initial Setting time	185 minutes	Not less than 30 minutes
6	Final Setting time	270 minutes	Not more than 600 minutes
7	Soundness (Le Chatelier's Method)	1.5mm	Not more than 10 mm

* The results obtained are satisfactory as per standard requirements.

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Quality Manager

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TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID	:	**CP-2022-08-25-01** **Date: 23-09-2022**
Project Name	:	Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)
Agency	:	Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024
Customer's Reference	:	BBMP/EE/BTP/WO/63/2022-23
Source of Sample	:	Siddivinayaka Nagara
Date of Receipt	:	25-08-2022
Sample Type	:	Dalmia 53grade
Reference to BIS codes	:	IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification , IS 4031 Part 4, (RA 2019) Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 6, (RA 2019) Determination of Compressive Strength, Clause 6
Date of test	:	26-08-2022
Environmental Conditions during test	:	Temperature: 26°C Humidity: 72%

Compressive Strength

Sl.No.	Physical properties	Results	Requirement as per IS 12269: 2013
1	3 Days	29.5N/mm^2	Not less than 27 N/mm^2
2	7 Days	39.0N/mm^2	Not less than 37 N/mm^2
3	28 Days	54.5N/mm^2	Not less than 53 N/mm^2

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-08-26-01** **Date: 01/09/2022**

Project Name : Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

Agency : Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 26-08-2022

Customer ID : Drain Bottom Raft- 11th Cross Ganesh Nagar

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 01/09/2022

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Bottom Raft-11th Cross Ganesh Nagar	M20	25/08/2022	01/09/2022	151.95 X 150.38 X 150.30	22850	8.479	399.9	17.5	17.6
2	Drain Bottom Raft-11th Cross Ganesh Nagar	M20	25/08/2022	01/09/2022	149.39 X 150.87 X 151.29	22539	8.393	414.7	18.4	
3	Drain Bottom Raft-11th Cross Ganesh Nagar	M20	25/08/2022	01/09/2022	151.36 X 150.61 X 149.68	22796	8.211	385.3	16.9	

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-08-26-01** **Date: 22/09/2022**

Project Name : Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

Agency : Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 26-08-2022

Customer ID : Drain Bottom Raft- 11th Cross Ganesh Nagar

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 22/09/2022

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Bottom Raft-11th Cross Ganesh Nagar	M20	25/08/2022	22/09/2022	149.26 X 150.44 X 149.09	22454	8.112	507.5	22.6	23.3
2	Drain Bottom Raft-11th Cross Ganesh Nagar	M20	25/08/2022	22/09/2022	149.77 X 151.36 X 151.55	22670	9.074	532.7	23.5	
3	Drain Bottom Raft-11th Cross Ganesh Nagar	M20	25/08/2022	22/09/2022	149.51 X 150.02 X 149.89	22428	8.849	533.8	23.8	

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2022-08-24-01** **Date: 29-08-2022**
Project Name	:	Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)
Agency	:	Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024
Customer Reference	:	BBMP/EE/BTP/WO/63/2022-23
Source of Sample	:	Ganesh Nagar
Date of Receipt	:	26-08-2022
Sample Type/ Size	:	20mm down size coarse aggregate
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2021 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties
Date of test	:	26-08-2022

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 20MM DOWN COARSE AGGREGATE:

Total weight taken : 5000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	40 mm	0	0	0	100	100
2	20 mm	275	275	5.5	94.5	90-100
3	10 mm	2514	2789	55.8	44.2	25-55
4	4.75 mm	1832	4621	92.4	7.6	0-10
5	Pan	379	5000	100	0	–

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-08-27-01** **Date: 02/09/2022**

Project Name : Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

Agency : Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 27-08-2022

Customer ID : Drain Side Wall - 11th Cross Road Ganesh Nagar

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 02/09/2022

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Side Wall - 11th Cross Road Ganesh Nagar	M20	26/08/2022	02/09/2022	149.72 X 151.00 X 150.91	22607	9.031	355.5	15.7	
2	Drain Side Wall - 11th Cross Road Ganesh Nagar	M20	26/08/2022	02/09/2022	150.41 X 150.41 X 151.44	22622	9.071	401.2	17.7	16.8
3	Drain Side Wall - 11th Cross Road Ganesh Nagar	M20	26/08/2022	02/09/2022	149.80 X 149.99 X 149.25	22468	8.995	378.5	16.8	

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-08-27-01** **Date: 23/09/2022**

Project Name : Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

Agency : Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 27-08-2022

Customer ID : Drain Side Wall - 11th Cross Road Ganesh Nagar

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 23/09/2022

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Side Wall - 11th Cross Road Ganesh Nagar	M20	26/08/2022	23/09/2022	149.65 X 150.67 X 150.16	22548	8.602	488.7	21.7	22.4
2	Drain Side Wall - 11th Cross Road Ganesh Nagar	M20	26/08/2022	23/09/2022	151.24 X 151.13 X 152.00	22856	8.258	501.8	22.0	
3	Drain Side Wall - 11th Cross Road Ganesh Nagar	M20	26/08/2022	23/09/2022	150.30 X 150.42 X 149.61	22607	8.287	532.2	23.5	

* The results obtained are satisfactory as per standard requirements.

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Quality Manager

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HIGHWAY & BUILDING MATERIALS TESTING LABORATORY | STRUCTURAL | ENVIRONMENTAL
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Format No: CP/TF/01

TEST REPORT OF PRECAST COVER SLAB

Lab ID : **CP-2022-09-02-01** **Date: 06-09-22**

Project Name : Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

Agency : Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 02-09-22

Sample Type /Size : Precast Cover Slab (100 mm Thick)

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete

Date of test : 02/09/2022

Sl. No.	Identification Mark	Diameter of the core	Height of the core	Weight of the core	Area	Failure Load	Core Compressive strength	Corrected Cylinder Compressive strength	Equivalent Cube Compressive strength
		(mm)	(mm)	(kg)	(Sq.mm)	(KN)	(N/mm^2)	(N/mm^2)	(N/mm^2)
1	Cover Slab-1	100.03	100.56	2.135	7857	165.5	21.1	19.6	24.5
2	Cover Slab-2	100.04	100.63	2.169	7859	175.6	22.3	20.8	26.0
3	Cover Slab-3	100.01	100.85	2.185	7854	189.5	24.1	22.4	28.0

* The results obtained are satisfactory as per standard requirements.

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CIVIL Pro Sig..... Date..... BANGALORE

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

****End of Report****

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Format No: CP/TF/01

TEST REPORT OF PRECAST COVER SLAB

Lab ID : **CP-2022-09-02-01** **Date: 06-09-22**

Project Name : Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

Agency : Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 02-09-22

Sample Type /Size : Precast Cover Slab (250 mm Thick)

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete

Date of test : 02/09/2022

Sl. No.	Identification Mark	Diameter of the core	Height of the core	Weight of the core	Area	Failure Load	Core Compressive strength	Corrected Cylinder Compressive strength	Equivalent Cube Compressive strength
		(mm)	(mm)	(kg)	(Sq.mm)	(KN)	(N/mm^2)	(N/mm^2)	(N/mm^2)
1	Cover Slab-1	100.02	100.63	2.586	7856	198.6	25.3	23.5	29.4
2	Cover Slab-2	100.04	100.85	2.693	7859	185.7	23.6	22.0	27.5
3	Cover Slab-3	100.03	100.95	2.796	7857	179.6	22.9	21.3	26.6

* The results obtained are satisfactory as per standard requirements.

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Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE KERB STONE

Lab ID : **CP-2022-08-29-01** **Date: 02-09-22**

Project Name : Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

Agency : Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 29-08-22

Sample Type /Size : CC Kerb Stone/ 450*165*400mm

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete

Date of test : 29/08/2022

Sl. No.	Identification Mark	Diameter of the core	Height of the core	Weight of the core	Area	Failure Load	Core Compressive strength	Corrected Cylinder Compressive strength	Equivalent Cube Compressive strength
		(mm)	(mm)	Kg	(Sq.mm)	(KN)	(N/mm2)	(N/mm2)	(N/mm2)
1	A	100.01	165.48	2.864	7854	142.1	18.1	18.1	22.6
2	B	100.03	165.53	2.793	7857	145.2	18.5	18.5	23.1
3	C	100.01	165.75	2.815	7854	145.1	18.5	18.5	23.1

* The results obtained are satisfactory as per standard requirements.

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Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-09-14-01** **Date: 20/09/2022**

Project Name : Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

Agency : Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 14-09-2022

Customer ID : Kerb PCC- Siddivinayaka nagar 4th Main Road

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M15 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 20/09/2022

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Kerb PCC- Siddivinayaka nagar 4th Main Road	M15	13/09/2022	20/09/2022	149.70 X 151.93 X 150.69	22744	8.491	316.4	13.9	12.7
2	Kerb PCC- Siddivinayaka nagar 4th Main Road	M15	13/09/2022	20/09/2022	150.39 X 151.39 X 149.80	22767	9.009	289.9	12.7	
3	Kerb PCC- Siddivinayaka nagar 4th Main Road	M15	13/09/2022	20/09/2022	151.56 X 151.30 X 150.15	22931	8.341	264.0	11.5	

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-09-14-01** **Date: 11/10/2022**

Project Name : Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

Agency : Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 14-09-2022

Customer ID : Kerb PCC- Siddivinayaka nagar 4th Main Road

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M15 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 11/10/2022

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Kerb PCC- Siddivinayaka nagar 4th Main Road	M15	13/09/2022	11/10/2022	150.30 X 150.49 X 149.23	22618	8.662	374.1	16.5	17.5
2	Kerb PCC- Siddivinayaka nagar 4th Main Road	M15	13/09/2022	11/10/2022	149.82 X 150.27 X 151.96	22515	8.535	401.9	17.8	
3	Kerb PCC- Siddivinayaka nagar 4th Main Road	M15	13/09/2022	11/10/2022	151.03 X 149.72 X 149.82	22613	8.933	406.8	18.0	

* The results obtained are satisfactory as per standard requirements.

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Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-09-22-01** **Date: 28/09/2022**

Project Name : Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

Agency : Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 22-09-2022

Customer ID : Drain Bottom Raft- Pillappa Layout Jeevanadi Villa Road

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 28/09/2022

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Bottom Raft-Pillappa Layout Jeevanadi Villa Road	M20	21/09/2022	28/09/2022	150.92 X 149.15 X 149.43	22510	8.319	356.5	15.8	15.9
2	Drain Bottom Raft-Pillappa Layout Jeevanadi Villa Road	M20	21/09/2022	28/09/2022	151.43 X 150.85 X 150.26	22843	8.213	379.2	16.6	
3	Drain Bottom Raft-Pillappa Layout Jeevanadi Villa Road	M20	21/09/2022	28/09/2022	151.29 X 151.16 X 150.32	22869	8.946	347.2	15.2	

* The results obtained are satisfactory as per standard requirements.

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Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-09-22-01** **Date: 19/10/2022**

Project Name : Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

Agency : Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 22-09-2022

Customer ID : Drain Bottom Raft- Pillappa Layout Jeevanadi Villa Road

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 19/10/2022

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Bottom Raft-Pillappa Layout Jeevanadi Villa Road	M20	21/09/2022	19/10/2022	150.10 X 150.90 X 151.96	22650	8.433	496.2	21.9	21.9
2	Drain Bottom Raft-Pillappa Layout Jeevanadi Villa Road	M20	21/09/2022	19/10/2022	151.43 X 151.65 X 149.82	22964	8.424	508.2	22.1	
3	Drain Bottom Raft-Pillappa Layout Jeevanadi Villa Road	M20	21/09/2022	19/10/2022	150.24 X 149.89 X 149.58	22519	8.182	487.1	21.6	

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-09-22-01** **Date: 28/09/2022**

Project Name : Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

Agency : Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 22-09-2022

Customer ID : Drain Bottom Raft- Siddivinayaka Layout

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 28/09/2022

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Bottom Raft-Siddivinayaka Layout	M20	21/09/2022	28/09/2022	150.97 X 150.87 X 151.35	22777	8.472	371.3	16.3	16.5
2	Drain Bottom Raft-Siddivinayaka Layout	M20	21/09/2022	28/09/2022	151.21 X 149.11 X 151.22	22546	8.340	358.5	15.9	
3	Drain Bottom Raft-Siddivinayaka Layout	M20	21/09/2022	28/09/2022	150.47 X 151.00 X 150.25	22722	9.063	393.1	17.3	

* The results obtained are satisfactory as per standard requirements.

23.09.22

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CIVIL Pro Sig..... Date..... BANGALORE

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Authorized Signatory
Quality Manager

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-09-22-01** **Date: 19/10/2022**

Project Name : Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

Agency : Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 22-09-2022

Customer ID : Drain Bottom Raft- Siddivinayaka Layout

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 19/10/2022

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen	Cross sectional area	Weight of the sample	Failure Load	Compressive strength	Average Compressive Strength
					(mm)	(Sq.mm)	(kg)	(KN)	(N/mm^2)	(N/mm^2)
1	Drain Bottom Raft-Siddivinayaka Layout	M20	21/09/2022	19/10/2022	150.70 X 150.44 X 149.62	22671	8.224	541.8	23.9	23.7
2	Drain Bottom Raft-Siddivinayaka Layout	M20	21/09/2022	19/10/2022	151.07 X 149.69 X 149.31	22613	8.535	515.6	22.8	
3	Drain Bottom Raft-Siddivinayaka Layout	M20	21/09/2022	19/10/2022	151.80 X 150.88 X 150.66	22904	9.022	556.6	24.3	

* The results obtained are satisfactory as per standard requirements.

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Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-09-24-01** **Date: 30/09/2022**

Project Name : Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

Agency : Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 24-09-2022

Customer ID : Drain Side Wall - Pillappa Layout Jeevanadi Villa Road

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 30/09/2022

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Side Wall - Pillappa Layout Jeevanadi Villa Road	M20	23/09/2022	30/09/2022	149.92 X 149.93 X 151.70	22477	8.378	354.2	15.8	16.1
2	Drain Side Wall - Pillappa Layout Jeevanadi Villa Road	M20	23/09/2022	30/09/2022	151.61 X 150.11 X 150.17	22758	8.343	363.7	16.0	
3	Drain Side Wall - Pillappa Layout Jeevanadi Villa Road	M20	23/09/2022	30/09/2022	151.84 X 150.92 X 149.31	22915	8.130	377.3	16.5	

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-09-24-01** **Date: 21/10/2022**

Project Name : Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

Agency : Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 24-09-2022

Customer ID : Drain Side Wall - Pillappa Layout Jeevanadi Villa Road

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 21/10/2022

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Side Wall - Pillappa Layout Jeevanadi Villa Road	M20	23/09/2022	21/10/2022	149.76 X 149.65 X 150.18	22413	8.869	523.3	23.3	23.0
2	Drain Side Wall - Pillappa Layout Jeevanadi Villa Road	M20	23/09/2022	21/10/2022	149.88 X 150.41 X 150.94	22544	8.320	512.7	22.7	
3	Drain Side Wall - Pillappa Layout Jeevanadi Villa Road	M20	23/09/2022	21/10/2022	150.20 X 149.41 X 151.34	22441	8.363	516.8	23.0	

* The results obtained are satisfactory as per standard requirements.

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Certificate No.: TC-5548

Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-09-24-01** **Date: 30/09/2022**

Project Name : Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

Agency : Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 24-09-2022

Customer ID : Drain Side Wall - Siddivinayaka Layout

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 30/09/2022

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Side Wall - Siddivinayaka Layout	M20	23/09/2022	30/09/2022	151.90 X 151.22 X 150.56	22969	9.031	404.3	17.6	17.4
2	Drain Side Wall - Siddivinayaka Layout	M20	23/09/2022	30/09/2022	150.90 X 151.00 X 151.66	22786	8.154	382.8	16.8	
3	Drain Side Wall - Siddivinayaka Layout	M20	23/09/2022	30/09/2022	150.24 X 149.79 X 149.87	22504	8.964	400.6	17.8	

* The results obtained are satisfactory as per standard requirements.

BR-09

AEE (VRP) SD

CIVIL Pro Sig..... Date..... BANGALORE

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R KARTHIK RECHAN
Authorized Signatory
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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-09-24-01** **Date: 21/10/2022**

Project Name : Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

Agency : Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 24-09-2022

Customer ID : Drain Side Wall - Siddivinayaka Layout

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 21/10/2022

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Side Wall - Siddivinayaka Layout	M20	23/09/2022	21/10/2022	151.90 X 149.94 X 149.25	22776	8.705	519.3	22.8	23.5
2	Drain Side Wall - Siddivinayaka Layout	M20	23/09/2022	21/10/2022	150.84 X 151.07 X 151.35	22788	8.297	537.8	23.6	
3	Drain Side Wall - Siddivinayaka Layout	M20	23/09/2022	21/10/2022	150.11 X 149.90 X 151.32	22502	8.413	544.5	24.2	

* The results obtained are satisfactory as per standard requirements.

Lab : AE-09

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-09-26-01** **Date: 03/10/2022**

Project Name : Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

Agency : Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 26-09-2022

Customer ID : Drain Bottom Raft- Pillappa Layout Jeevanadi Villa Road

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 02/10/2022

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Bottom Raft-Pillappa Layout Jeevanadi Villa Road	M20	25/09/2022	02/10/2022	151.80 X 151.80 X 149.85	23043	8.173	387.9	16.8	16.7
2	Drain Bottom Raft-Pillappa Layout Jeevanadi Villa Road	M20	25/09/2022	02/10/2022	150.62 X 149.79 X 151.35	22561	8.119	397.7	17.6	
3	Drain Bottom Raft-Pillappa Layout Jeevanadi Villa Road	M20	25/09/2022	02/10/2022	151.44 X 149.56 X 150.82	22650	8.946	355.4	15.7	

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-09-26-01** **Date: 24/10/2022**

Project Name : Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

Agency : Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 26-09-2022

Customer ID : Drain Bottom Raft- Pillappa Layout Jeevanadi Villa Road

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 23/10/2022

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Bottom Raft-Pillappa Layout Jeevanadi Villa Road	M20	25/09/2022	23/10/2022	151.80 X 150.94 X 151.89	22912	9.093	494.3	21.6	22.2
2	Drain Bottom Raft-Pillappa Layout Jeevanadi Villa Road	M20	25/09/2022	23/10/2022	151.73 X 151.54 X 149.81	22994	9.025	528.1	23.0	
3	Drain Bottom Raft-Pillappa Layout Jeevanadi Villa Road	M20	25/09/2022	23/10/2022	149.96 X 150.41 X 149.04	22556	8.520	496.1	22.0	

* The results obtained are satisfactory as per standard requirements.

AE-09

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Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-09-27-01** **Date: 03/10/2022**

Project Name : Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

Agency : Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 27-09-2022

Customer ID : Drain Side Wall - Pillappa Layout Jeevanadi Villa Road

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 03/10/2022

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Side Wall - Pillappa Layout Jeevanadi Villa Road	M20	26/09/2022	03/10/2022	149.27 X 151.94 X 151.40	22680	8.287	340.8	15.0	16.6
2	Drain Side Wall - Pillappa Layout Jeevanadi Villa Road	M20	26/09/2022	03/10/2022	150.18 X 150.86 X 149.98	22655	8.731	404.1	17.8	
3	Drain Side Wall - Pillappa Layout Jeevanadi Villa Road	M20	26/09/2022	03/10/2022	149.97 X 151.54 X 150.23	22726	8.821	385.6	17.0	

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-09-27-01** **Date: 24/10/2022**

Project Name : Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

Agency : Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 27-09-2022

Customer ID : Drain Side Wall - Pillappa Layout Jeevanadi Villa Road

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 24/10/2022

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Side Wall - Pillappa Layout Jeevanadi Villa Road	M20	26/09/2022	24/10/2022	151.76 X 150.10 X 149.63	22780	9.010	512.8	22.5	22.8
2	Drain Side Wall - Pillappa Layout Jeevanadi Villa Road	M20	26/09/2022	24/10/2022	150.41 X 150.05 X 150.56	22569	8.983	514.0	22.8	
3	Drain Side Wall - Pillappa Layout Jeevanadi Villa Road	M20	26/09/2022	24/10/2022	149.62 X 150.76 X 149.57	22556	8.811	520.0	23.1	

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-09-29-01** **Date: 05/10/2022**

Project Name : Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

Agency : Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 29-09-2022

Customer ID : Drain Bottom Raft- Pillappa Layout Jeevanadi Villa Road

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 05/10/2022

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Bottom Raft-Pillappa Layout Jeevanadi Villa Road	M20	28/09/2022	05/10/2022	150.46 X 149.86 X 150.29	22548	9.028	405.2	18.0	17.1
2	Drain Bottom Raft-Pillappa Layout Jeevanadi Villa Road	M20	28/09/2022	05/10/2022	151.92 X 151.45 X 149.79	23009	8.116	359.9	15.6	
3	Drain Bottom Raft-Pillappa Layout Jeevanadi Villa Road	M20	28/09/2022	05/10/2022	150.98 X 150.51 X 151.85	22724	8.218	402.7	17.7	

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-09-29-01** **Date: 26/10/2022**

Project Name : Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

Agency : Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 29-09-2022

Customer ID : Drain Bottom Raft- Pillappa Layout Jeevanadi Villa Road

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 26/10/2022

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Bottom Raft-Pillappa Layout Jeevanadi Villa Road	M20	28/09/2022	26/10/2022	151.82 X 151.62 X 150.92	23019	8.361	494.9	21.5	21.9
2	Drain Bottom Raft-Pillappa Layout Jeevanadi Villa Road	M20	28/09/2022	26/10/2022	149.23 X 151.01 X 151.53	22536	9.066	517.2	23.0	
3	Drain Bottom Raft-Pillappa Layout Jeevanadi Villa Road	M20	28/09/2022	26/10/2022	149.30 X 152.00 X 150.66	22693	8.743	479.0	21.1	

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-09-30-01** **Date: 06/10/2022**

Project Name : Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

Agency : Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 30-09-2022

Customer ID : Drain Side Wall - Pillappa Layout Jeevanadi Villa Road

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 06/10/2022

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Side Wall - Pillappa Layout Jeevanadi Villa Road	M20	29/09/2022	06/10/2022	150.96 X 149.95 X 151.23	22636	8.257	420.7	18.6	18.4
2	Drain Side Wall - Pillappa Layout Jeevanadi Villa Road	M20	29/09/2022	06/10/2022	150.35 X 150.56 X 149.00	22636	8.399	421.6	18.6	
3	Drain Side Wall - Pillappa Layout Jeevanadi Villa Road	M20	29/09/2022	06/10/2022	151.32 X 149.74 X 149.77	22659	8.860	409.5	18.1	

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-09-30-01** **Date: 27/10/2022**

Project Name : Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

Agency : Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 30-09-2022

Customer ID : Drain Side Wall - Pillappa Layout Jeevanadi Villa Road

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 27/10/2022

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Side Wall - Pillappa Layout Jeevanadi Villa Road	M20	29/09/2022	27/10/2022	149.47 X 150.61 X 151.04	22511	8.691	514.2	22.8	22.3
2	Drain Side Wall - Pillappa Layout Jeevanadi Villa Road	M20	29/09/2022	27/10/2022	149.06 X 152.00 X 151.54	22656	8.792	478.3	21.1	
3	Drain Side Wall - Pillappa Layout Jeevanadi Villa Road	M20	29/09/2022	27/10/2022	150.93 X 149.61 X 149.79	22581	8.938	515.2	22.8	

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-10-01-01** **Date: 07/10/2022**

Project Name : Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

Agency : Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 01-10-2022

Customer ID : Drain Side Wall - Pillappa Layout Jeevanadi Villa Road

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 07/10/2022

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Side Wall - Pillappa Layout Jeevanadi Villa Road	M20	30/09/2022	07/10/2022	151.34 X 149.37 X 149.84	22605	8.729	365.1	16.1	16.6
2	Drain Side Wall - Pillappa Layout Jeevanadi Villa Road	M20	30/09/2022	07/10/2022	151.18 X 151.93 X 149.14	22969	8.520	394.3	17.2	
3	Drain Side Wall - Pillappa Layout Jeevanadi Villa Road	M20	30/09/2022	07/10/2022	149.61 X 151.22 X 151.29	22625	8.608	372.7	16.5	

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-10-01-01** **Date: 28/10/2022**

Project Name : Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

Agency : Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 01-10-2022

Customer ID : Drain Side Wall - Pillappa Layout Jeevanadi Villa Road

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 28/10/2022

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Side Wall - Pillappa Layout Jeevanadi Villa Road	M20	30/09/2022	28/10/2022	151.11 X 151.89 X 150.54	22952	8.240	499.3	21.8	22.1
2	Drain Side Wall - Pillappa Layout Jeevanadi Villa Road	M20	30/09/2022	28/10/2022	149.80 X 151.75 X 149.28	22731	8.769	515.7	22.7	
3	Drain Side Wall - Pillappa Layout Jeevanadi Villa Road	M20	30/09/2022	28/10/2022	149.08 X 151.90 X 151.51	22645	8.504	497.3	22.0	

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID	:	**CP-2022-10-01-01** **Date: 05-10-2022**
Project Name	:	Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)
Agency	:	Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024
Customer's Reference	:	BBMP/EE/BTP/WO/63/2022-23
Source of Sample	:	Pillappa Layout
Date of Receipt	:	01-10-2022
Sample Type	:	Dalmia 53grade
Reference to BIS codes	:	IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification , IS 4031 (Part 1,2 3,4,5, 6,11):1988 IS 4031 Part 1 (RA 2021) DETERMINATION OF FINENESS BY DRY SIEVING, Clause 4.4 IS 4031 Part 2, (RA 2018) Determination of Fineness by Blaine Air Permeability IS 4031 Part 3, (RA 2019) Determination of Soundness, Clause 5, Clause 6 IS 4031 Part 4, (RA 2019) Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 5, (RA 2019) Determination of Initial & Final Setting Time, Clause 5 IS 4031 Part 11, (RA 2019)DETERMINATION OF DENSITY , Clause 6
Date of test	:	03-10-2022
Environmental Conditions during test	:	Temperature: 26°C Humidity: 72%

Sl.No.	Physical properties	Results	Requirement as per IS 12269: 2013
1	Fineness by dry sieving (%)	2.2	–
2	Finess by Air permeablity method (m^2/kg,Min)	249.5	225m^2/kg, Min
3	Density (gm/cc)	3.15	–
4	Standard Consistency (%)	27.5%	Not specified
5	Initial Setting time	170 minutes	Not less than 30 minutes
6	Final Setting time	260 minutes	Not more than 600 minutes
7	Soundness (Le Chatelier's Method)	1.5mm	Not more than 10 mm

* The results obtained are satisfactory as per standard requirements.

BB/AE-09

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Format No: CP/TF/01

TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID	:	**CP-2022-10-01-01**	**Date: 31-10-2022**
Project Name	:	Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)	
Agency	:	Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024	
Customer's Reference	:	BBMP/EE/BTP/WO/63/2022-23	
Source of Sample	:	Pillappa Layout	
Date of Receipt	:	01-10-2022	
Sample Type	:	Dalmia 53grade	
Reference to BIS codes	:	IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification , IS 4031 Part 4, (RA 2019) Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 6, (RA 2019) Determination of Compressive Strength, Clause 6	
Date of test	:	03-10-2022	
Environmental Conditions during test	:	Temperature: Humidity:	26°C 72%

Compressive Strength

Sl.No.	Physical properties	Results	Requirement as per IS 12269: 2013
1	3 Days	28.5N/mm^2	Not less than 27 N/mm^2
2	7 Days	39.0N/mm^2	Not less than 37 N/mm^2
3	28 Days	58.5N/mm^2	Not less than 53 N/mm^2

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-10-11-01** **Date: 17/10/2022**

Project Name : Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

Agency : Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 11-10-2022

Customer ID : Coping Concrete - 7th Cross Road Ganesh Nagar

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M15 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 17/10/2022

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Coping Concrete - 7th Cross Road Ganesh Nagar	M15	10/10/2022	17/10/2022	150.67 X 150.83 X 151.04	22726	8.951	270.1	11.9	12.5
2	Coping Concrete - 7th Cross Road Ganesh Nagar	M15	10/10/2022	17/10/2022	150.93 X 149.48 X 150.59	22560	8.196	273.7	12.1	
3	Coping Concrete - 7th Cross Road Ganesh Nagar	M15	10/10/2022	17/10/2022	149.18 X 151.03 X 150.48	22530	8.707	300.9	13.4	

* The results obtained are satisfactory as per standard requirements.

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Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-10-11-01** **Date: 07/11/2022**

Project Name : Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

Agency : Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 11-10-2022

Customer ID : Coping Concrete - 7th Cross Road Ganesh Nagar

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M15 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 07/11/2022

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Coping Concrete - 7th Cross Road Ganesh Nagar	M15	10/10/2022	07/11/2022	149.27 X 150.18 X 151.18	22418	8.883	321.7	14.3	14.6
2	Coping Concrete - 7th Cross Road Ganesh Nagar	M15	10/10/2022	07/11/2022	149.88 X 150.01 X 149.01	22484	8.712	343.7	15.3	
3	Coping Concrete - 7th Cross Road Ganesh Nagar	M15	10/10/2022	07/11/2022	151.23 X 149.56 X 151.99	22619	8.117	318.9	14.1	

* The results obtained are satisfactory as per standard requirements.

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Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-10-15-01** **Date: 19/10/2022**

Project Name : Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

Agency : Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 15-10-2022

Customer ID : Drain Bottom Raft - Pillappa Layout Jeevanadi Villa Road

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 19/10/2022

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Bottom Raft - Pillappa Layout Jeevanadi Villa Road	M20	12/10/2022	19/10/2022	152.73 X 152.48 X 152.73	23288	8.245	453.1	19.5	18.6
2	Drain Bottom Raft - Pillappa Layout Jeevanadi Villa Road	M20	12/10/2022	19/10/2022	151.88 X 151.84 X 152.78	23061	8.325	430.0	18.6	
3	Drain Bottom Raft - Pillappa Layout Jeevanadi Villa Road	M20	12/10/2022	19/10/2022	152.43 X 153.41 X 150.40	23543	8.294	418.0	17.8	

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-10-15-01** **Date: 09/11/2022**

Project Name : Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

Agency : Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 15-10-2022

Customer ID : Drain Bottom Raft - Pillappa Layout Jeevanadi Villa Road

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 09/11/2022

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen	Cross sectional area	Weight of the sample	Failure Load	Compressive strength	Average Compressive Strength
					(mm)	(Sq.mm)	(kg)	(KN)	(N/mm^2)	(N/mm^2)
1	Drain Bottom Raft - Pillappa Layout Jeevanadi Villa Road	M20	12/10/2022	09/11/2022	151.14 X 152.43 X 152.05	23288	8.281	672.4	28.9	28.7
2	Drain Bottom Raft - Pillappa Layout Jeevanadi Villa Road	M20	12/10/2022	09/11/2022	151.33 X 151.84 X 151.74	23061	8.279	619.8	26.9	
3	Drain Bottom Raft - Pillappa Layout Jeevanadi Villa Road	M20	12/10/2022	09/11/2022	152.56 X 150.89 X 152.06	23543	8.216	711.2	30.2	

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-10-15-01** **Date: 20/10/2022**

Project Name : Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

Agency : Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 15-10-2022

Customer ID : Drain Side Wall - Pillappa Layout Jeevanadi Villa Road

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 20/10/2022

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Side Wall - Pillappa Layout Jeevanadi Villa Road	M20	13/10/2022	20/10/2022	151.93 X 151.42 X 151.92	23005	8.807	404.1	17.6	
2	Drain Side Wall - Pillappa Layout Jeevanadi Villa Road	M20	13/10/2022	20/10/2022	149.74 X 151.70 X 149.27	22716	8.323	376.5	16.6	17.3
3	Drain Side Wall - Pillappa Layout Jeevanadi Villa Road	M20	13/10/2022	20/10/2022	151.74 X 149.40 X 151.28	22669	8.964	405.0	17.9	

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-10-15-01** **Date: 10/11/2022**

Project Name : Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

Agency : Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 15-10-2022

Customer ID : Drain Side Wall - Pillappa Layout Jeevanadi Villa Road

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 10/11/2022

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Side Wall - Pillappa Layout Jeevanadi Villa Road	M20	13/10/2022	10/11/2022	150.70 X 151.60 X 150.00	22846	9.026	498.9	21.8	21.7
2	Drain Side Wall - Pillappa Layout Jeevanadi Villa Road	M20	13/10/2022	10/11/2022	149.81 X 150.09 X 150.17	22485	8.263	497.5	22.1	
3	Drain Side Wall - Pillappa Layout Jeevanadi Villa Road	M20	13/10/2022	10/11/2022	151.44 X 150.87 X 149.32	22848	9.091	480.1	21.0	

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-10-15-01** **Date: 21/10/2022**

Project Name : Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

Agency : Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 15-10-2022

Customer ID : Drain Side Wall - Pillappa Layout Jeevanadi Villa Road

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 21/10/2022

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Side Wall - Pillappa Layout Jeevanadi Villa Road	M20	14/10/2022	21/10/2022	151.94 X 149.34 X 151.63	22692	8.725	359.1	15.8	16.7
2	Drain Side Wall - Pillappa Layout Jeevanadi Villa Road	M20	14/10/2022	21/10/2022	149.00 X 151.26 X 151.40	22537	8.633	404.0	17.9	
3	Drain Side Wall - Pillappa Layout Jeevanadi Villa Road	M20	14/10/2022	21/10/2022	149.98 X 149.01 X 151.34	22348	8.274	365.2	16.3	

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-10-15-01** **Date: 11/11/2022**

Project Name : Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

Agency : Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 15-10-2022

Customer ID : Drain Side Wall - Pillappa Layout Jeevanadi Villa Road

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 11/11/2022

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen	Cross sectional area	Weight of the sample	Failure Load	Compressive strength	Average Compressive Strength
					(mm)	(Sq.mm)	(kg)	(KN)	(N/mm^2)	(N/mm^2)
1	Drain Side Wall - Pillappa Layout Jeevanadi Villa Road	M20	14/10/2022	11/11/2022	150.24 X 149.74 X 150.82	22497	8.794	474.9	21.1	21.9
2	Drain Side Wall - Pillappa Layout Jeevanadi Villa Road	M20	14/10/2022	11/11/2022	150.22 X 150.96 X 150.77	22677	8.195	507.0	22.4	
3	Drain Side Wall - Pillappa Layout Jeevanadi Villa Road	M20	14/10/2022	11/11/2022	150.23 X 151.65 X 151.93	22783	8.106	508.9	22.3	

* The results obtained are satisfactory as per standard requirements.

AE-09

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TEST RESULTS OF GRADATION FOR WMM

Lab ID : **CP-RW-2022-10-15-01** **Date: 17-10-2022**

Project Name : Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

Agency : Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer Reference : BBMP/EE/BTP/WO/63/2022-23

Source of Sample : Ganesh Nagar

Date of Receipt : 15-10-2022

Type of Mix : WMM (Wet Mix Macadam)

Date of test : 15-10-2022

Oven Dry Weight : 11000 Grams

IS Sieve Size(mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	% Cumulative Weight Retained	% Passing	Spec.I.Vide Table 400.13 MORTH Specification
53	0	0	0.0	100.0	100
45	315	315	2.9	97.1	95-100
22.4	2259	2574	23.4	76.6	60-80
11.2	2179	4753	43.2	56.8	40-60
4.75	2251	7004	63.7	36.3	25-40
2.36	1621	8625	78.4	21.6	15-30
0.6	623	9248	84.1	15.9	8-22
0.075	1338	10586	96.2	3.8	0-5

* The results obtained are satisfactory as per standard requirements.

AE-09

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TEST REPORT OF AGGEGRATE IMPACT VALUE
IS: 2386 Part IV

Lab ID : **CP-RW-2022-10-15-01** **Date: 17-10-2022**

Project Name : Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

Agency : Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer Reference : BBMP/EE/BTP/WO/63/2022-23

Source of Sample : Ganesh Nagar

Date of Receipt : 15-10-2022

Type of Mix : Coarse Aggregate for WMM (Wet Mix Macadam)

Date of test : 15-10-2022

Sl.No	Particulars of observations	Index	TEST 1	TEST 2
1	Total weight of the surface dry sample sample (passing 12.5 mm and retained on 10mm sieve)	A	300.2	300.2
2	Weight of fraction passing 2.36mm sieve After giving 15 blows	B	68.2	74.0
3	weight of fraction retained 2.36mm sieve After giving 15 blows	C	231.2	225.8
4	Total weight of (B+C) is less than the initial weight (Weight A) by more than one gram the result shall be discarded and a fresh test made.	A-(B+C)	0.8	0.4
5	Aggregate impact value	(B/A)*100	22.7	24.7
6	Aggregate impact value (Mean of two tests)	Pecentage	23.7	

* The results obtained are satisfactory as per standard requirements.

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DETERMINATION OF FLAKINESS INDEX AND ELONGATION INDEX OF COARSE AGGREGATE(IS 2386 (Part 1) 1963 (RA 2007)

Lab ID	:	**CP-RW-2022-10-15-01**	**Date: 17-10-2022**
Project Name	:	Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)	
Agency	:	Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024	
Customer Reference	:	BBMP/EE/BTP/WO/63/2022-23	
Source of Sample	:	Ganesh Nagar	
Date of Receipt	:	15-10-2022	
Type of Mix	:	Coarse Aggregate for WMM (Wet Mix Macadam)	
Date of test	:	15-10-2022	

Result:

Index	Percentage of Flakiness and Elongation Index	Secified limits as per MORTH specification table 400-12
Flakiness Index	12.8%	Combined Flakiness & Elongation Index for WMM is Maximum 35%
Elongation Index	10.1%	
Combined Flakiness and Elongation Index for WMM	22.9%	

* The results obtained are satisfactory as per standard requirements.

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HIGHWAY & BUILDING MATERIALS TESTING LABORATORY | STRUCTURAL | ENVIRONMENTAL
WATER TESTING | GEO TECHNICAL | PROJECT MANAGEMENT | SURVEYING SERVICES

TEST RESULTS OF GRADATION FOR WMM

Lab ID : **CP-RW-2022-10-16-01** **Date: 18-10-2022**

Project Name : Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

Agency : Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer Reference : BBMP/EE/BTP/WO/63/2022-23

Source of Sample : Ganesh Nagar

Date of Receipt : 16-10-2022

Type of Mix : WMM (Wet Mix Macadam)

Date of test : 16-10-2022

Oven Dry Weight : 11000 Grams

IS Sieve Size(mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	% Cumulative Weight Retained	% Passing	Spec.I.Vide Table 400.13 MORTH Specification
53	0	0	0.0	100.0	100
45	320	320	2.9	97.1	95-100
22.4	2135	2455	22.3	77.7	60-80
11.2	2165	4620	42.0	58.0	40-60
4.75	2234	6854	62.3	37.7	25-40
2.36	1639	8493	77.2	22.8	15-30
0.6	632	9125	83.0	17.0	8-22
0.075	1415	10540	95.8	4.2	0-5

* The results obtained are satisfactory as per standard requirements.

BB/AE-09

AEE (VRP) SD

CIVIL Pro Sig..... Date..... BANGALORE

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TEST REPORT OF AGGEGRATE IMPACT VALUE
IS: 2386 Part IV

Lab ID : **CP-RW-2022-10-16-01** **Date: 18-10-2022**

Project Name : Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

Agency : Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer Reference : BBMP/EE/BTP/WO/63/2022-23

Source of Sample : Ganesh Nagar

Date of Receipt : 16-10-2022

Type of Mix : Coarse Aggregate for WMM (Wet Mix Macadam)

Date of test : 16-10-2022

Sl.No	Particulars of observations	Index	TEST 1	TEST 2
1	Total weight of the surface dry sample sample (passing 12.5 mm and retained on 10mm sieve)	A	303.1	303.1
2	Weight of fraction passing 2.36mm sieve After giving 15 blows	B	62.1	65.3
3	weight of fraction retained 2.36mm sieve After giving 15 blows	C	240.5	237.2
4	Total weight of (B+C) is less than the initial weight (Weight A) by more than one gram the result shall be discarded and a fresh test made.	A-(B+C)	0.5	0.6
5	Aggregate impact value	(B/A)*100	20.5	21.5
6	Aggregate impact value (Mean of two tests)	Pecentage	21.0	

* The results obtained are satisfactory as per standard requirements.

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AEE (VRP) SD

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DETERMINATION OF FLAKINESS INDEX AND ELONGATION INDEX OF COARSE AGGREGATE(IS 2386 (Part 1) 1963 (RA 2007)

Lab ID : **CP-RW-2022-10-16-01** **Date: 18-10-2022**

Project Name : Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

Agency : Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer Reference : BBMP/EE/BTP/WO/63/2022-23

Source of Sample : Ganesh Nagar

Date of Receipt : 16-10-2022

Type of Mix : Coarse Aggregate for WMM (Wet Mix Macadam)

Date of test : 16-10-2022

Result:

Index	Percentage of Flakiness and Elongation Index	Secified limits as per MORTH specification table 400-12
Flakiness Index	12.9%	Combined Flakiness & Elongation Index for WMM is Maximum 35%
Elongation Index	10.1%	
Combined Flakiness and Elongation Index for WMM	23.0%	

* The results obtained are satisfactory as per standard requirements.

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TEST RESULTS OF GRADATION FOR WMM

Lab ID : **CP-RW-2022-10-23-01** **Date: 25-10-2022**

Project Name : Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

Agency : Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer Reference : BBMP/EE/BTP/WO/63/2022-23

Source of Sample : Ganesh Nagar

Date of Receipt : 23-10-2022

Type of Mix : WMM (Wet Mix Macadam)

Date of test : 23-10-2022

Oven Dry Weight : 11000 Grams

IS Sieve Size(mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	% Cumulative Weight Retained	% Passing	Spec.I.Vide Table 400.13 MORTH Specification
53	0	0	0.0	100.0	100
45	216	216	2.0	98.0	95-100
22.4	2198	2414	21.9	78.1	60-80
11.2	2109	4523	41.1	58.9	40-60
4.75	2588	7111	64.6	35.4	25-40
2.36	1569	8680	78.9	21.1	15-30
0.6	1098	9778	88.9	11.1	8-22
0.075	762	10540	95.8	4.2	0-5

* The results obtained are satisfactory as per standard requirements.

DR-09

AEE (VRP) SD

CIVIL Pro Sig..... Date..... BANGALORE

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Certificate No.: TC-5548

TEST REPORT OF AGGEGRATE IMPACT VALUE
IS: 2386 Part IV

Lab ID : **CP-RW-2022-10-23-01** **Date: 25-10-2022**

Project Name : Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

Agency : Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer Reference : BBMP/EE/BTP/WO/63/2022-23

Source of Sample : Ganesh Nagar

Date of Receipt : 23-10-2022

Type of Mix : Coarse Aggregate for WMM (Wet Mix Macadam)

Date of test : 23-10-2022

Sl.No	Particulars of observations	Index	TEST 1	TEST 2
1	Total weight of the surface dry sample sample (passing 12.5 mm and retained on 10mm sieve)	A	300.2	300.2
2	Weight of fraction passing 2.36mm sieve After giving 15 blows	B	70.0	72.0
3	weight of fraction retained 2.36mm sieve After giving 15 blows	C	229.7	227.3
4	Total weight of (B+C) is less than the initial weight (Weight A) by more than one gram the result shall be discarded and a fresh test made.	A-(B+C)	0.5	0.9
5	Aggregate impact value	(B/A)*100	23.3	24.0
6	Aggregate impact value (Mean of two tests)	Pecentage	23.7	

* The results obtained are satisfactory as per standard requirements.

AE-09

AEE (VRP) SD

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DETERMINATION OF FLAKINESS INDEX AND ELONGATION INDEX OF COARSE AGGREGATE(IS 2386 (Part 1) 1963 (RA 2007)

Lab ID	:	**CP-RW-2022-10-23-01** **Date: 25-10-2022**
Project Name	:	Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)
Agency	:	Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024
Source of Sample	:	Ganesh Nagar
Customer Reference	:	BBMP/EE/BTP/WO/63/2022-23
Date of Receipt	:	23-10-2022
Type of Mix	:	Coarse Aggregate for WMM (Wet Mix Macadam)
Date of test	:	23-10-2022

Result:

Index	Percentage of Flakiness and Elongation Index	Secified limits as per MORTH specification table 400-12
Flakiness Index	11.3%	Combined Flakiness & Elongation Index for WMM is Maximum 35%
Elongation Index	10.2%	
Combined Flakiness and Elongation Index for WMM	21.5%	

* The results obtained are satisfactory as per standard requirements.

AE-09

AEE (VRP) SD

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End of Report

TEST RESULTS OF GRADATION FOR WMM

Lab ID : **CP-RW-2022-10-26-01** **Date: 28-10-2022**

Project Name : Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

Agency : Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer Reference : BBMP/EE/BTP/WO/63/2022-23

Source of Sample : Ganesh Nagar

Date of Receipt : 26-10-2022

Type of Mix : WMM (Wet Mix Macadam)

Date of test : 26-10-2022

Oven Dry Weight : 11000 Grams

IS Sieve Size(mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	% Cumulative Weight Retained	% Passing	Spec.I.Vide Table 400.13 MORTH Specification
53	0	0	0.0	100.0	100
45	298	298	2.7	97.3	95-100
22.4	2072	2370	21.5	78.5	60-80
11.2	2349	4719	42.9	57.1	40-60
4.75	2217	6936	63.1	36.9	25-40
2.36	1754	8690	79.0	21.0	15-30
0.6	1128	9818	89.3	10.7	8-22
0.075	698	10516	95.6	4.4	0-5

* The resuits obtained are satisfactory as per standard requirements.

AE-09

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Quality Manager

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TEST REPORT OF AGGEGRATE IMPACT VALUE
IS: 2386 Part IV

Lab ID : **CP-RW-2022-10-26-01** **Date: 28-10-2022**

Project Name : Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

Agency : Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer Reference : BBMP/EE/BTP/WO/63/2022-23

Source of Sample : Ganesh Nagar

Date of Receipt : 26-10-2022

Type of Mix : Coarse Aggregate for WMM (Wet Mix Macadam)

Date of test : 26-10-2022

Sl.No	Particulars of observations	Index	TEST 1	TEST 2
1	Total weight of the surface dry sample sample (passing 12.5 mm and retained on 10mm sieve)	A	302.5	302.5
2	Weight of fraction passing 2.36mm sieve After giving 15 blows	B	75.1	72.8
3	weight of fraction retained 2.36mm sieve After giving 15 blows	C	227.0	229.1
4	Total weight of (B+C) is less than the initial weight (Weight A) by more than one gram the result shall be discarded and a fresh test made.	A-(B+C)	0.4	0.6
5	Aggregate impact value	(B/A)*100	24.8	24.1
6	Aggregate impact value (Mean of two tests)	Pecentage	24.4	

* The results obtained are satisfactory as per standard requirements.

AB-09

AEE (VRP) SD

CIVIL Pro Sig..... Date..... BANGALORE

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DETERMINATION OF FLAKINESS INDEX AND ELONGATION INDEX OF COARSE AGGREGATE(IS 2386 (Part 1) 1963 (RA 2007)

Lab ID	:	**CP-RW-2022-10-26-01**	**Date: 28-10-2022**
Project Name	:	Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)	
Agency	:	Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024	
Customer Reference	:	BBMP/EE/BTP/WO/63/2022-23	
Source of Sample	:	Ganesh Nagar	
Date of Receipt	:	26-10-2022	
Type of Mix	:	Coarse Aggregate for WMM (Wet Mix Macadam)	
Date of test	:	26-10-2022	

Result:

Index	Percentage of Flakiness and Elongation Index	Secified limits as per MORTH specification table 400-12
Flakiness Index	13.1%	Combined Flakiness & Elongation Index for WMM is Maximum 35%
Elongation Index	12.5%	
Combined Flakiness and Elongation Index for WMM	25.6%	

* The results obtained are satisfactory as per standard requirements.

BBMP/AE-09

AEE (VRP) SD

CIVIL Pro Sig..... Date..... BANGALORE

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Format No: CP/TF/01

TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID	:	**CP-2022-11-02-01** **Date: 05-11-2022**
Project Name	:	Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)
Agency	:	Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024
Customer's Reference	:	BBMP/EE/BTP/WO/63/2022-23
Date of Receipt	:	02-11-2022
Source of Sample	:	Ganesh Nagar
Sample Type	:	Dalmia 53grade
Reference to BIS codes	:	IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification , IS 4031 (Part 1,2 3,4,5, 6,11):1988 IS 4031 Part 1 (RA 2021) DETERMINATION OF FINENESS BY DRY SIEVING, Clause 4.4 IS 4031 Part 2, (RA 2018) Determination of Fineness by Blaine Air Permeability IS 4031 Part 3, (RA 2019) Determination of Soundness, Clause 5, Clause 6 IS 4031 Part 4, (RA 2019) Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 5, (RA 2019) Determination of Initial & Final Setting Time, Clause 5 IS 4031 Part 11, (RA 2019)DETERMINATION OF DENSITY , Clause 6
Date of test	:	03-11-2022
Environmental Conditions during test	:	Temperature: 26°C Humidity: 72%

Sl.No.	Physical properties	Results	Requirement as per IS 12269: 2013
1	Fineness by dry sieving (%)	1.95	_
2	Finess by Air permeablity method (m^2/kg,Min)	285.3	225m^2/kg, Min
3	Density (gm/cc)	3.14	_
4	Standard Consistency (%)	29.5%	Not specified
5	Initial Setting time	150 minutes	Not less than 30 minutes
6	Final Setting time	245 minutes	Not more than 600 minutes
7	Soundness (Le Chatelier's Method)	1.5mm	Not more than 10 mm

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

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Format No: CP/TF/01

TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID	:	**CP-2022-11-02-01** **Date: 01-12-2022**
Project Name	:	Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)
Agency	:	Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024
Customer's Reference	:	BBMP/EE/BTP/WO/63/2022-23
Source of Sample	:	Ganesh Nagar
Date of Receipt	:	02-11-2022
Sample Type	:	Dalmia 53grade
Reference to BIS codes	:	IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification , IS 4031 Part 4, (RA 2019) Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 6, (RA 2019) Determination of Compressive Strength, Clause 6
Date of test	:	03-11-2022
Environmental Conditions during test	:	Temperature: 26°C Humidity: 72%

Compressive Strength

Sl.No.	Physical properties	Results	Requirement as per IS 12269: 2013
1	3 Days	28.0N/mm^2	Not less than 27 N/mm^2
2	7 Days	39.5N/mm^2	Not less than 37 N/mm^2
3	28 Days	59.0N/mm^2	Not less than 53 N/mm^2

* The results obtained are satisfactory as per standard requirements.

AE-09

AEE (VRP) SD

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****End of Report****

Format No: CP/TF/01

TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2022-11-02-01** **Date: 05-11-2022**
Project Name	:	Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)
Agency	:	Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024
Customer's Reference	:	BBMP/EE/BTP/WO/63/2022-23
Source of Sample	:	Ganesh Nagar
Date of Receipt	:	02-11-2022
Sample Type	:	40mm down size coarse aggregate
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2021 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties
Date of test	:	02-11-2022

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 40MM DOWN COARSE AGGREGATE:

Total weight taken : 15000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	80 mm	0	0	0.0	100	100
2	40 mm	215	215	1.4	98.6	90-100
3	20 mm	7455	7670	51.1	48.9	30-70
4	10 mm	4266	11936	79.6	20.4	10-35
5	4.75 mm	2844	14780	98.5	1.5	0-5
6	Pan	220	15000	100.0	0	---

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CIVIL Pro Sig..... Date..... BANGALORE

Format No: CP/TF/01

TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2022-11-02-01** **Date: 05-11-22**

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	11.9	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	12.3	
3	Specific Gravity	2.64	–
4	Bulk Density(Loose) (Kg/l)	1.41	–
5	Bulk Density(Compacted) (Kg/l)	1.47	–
6	Water Absorption(%)	0.23	–

* The results obtained are satisfactory as per standard requirements.

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TEST RESULTS OF GRADATION FOR WMM

Lab ID : **CP-RW-2022-11-03-01** **Date: 05-11-22**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer Reference : BBMP/EE/BTP/WO/63/2022-23

Source of Sample : Pilappa Layout

Date of Receipt : 03-11-22

Type of Mix : WMM (Wet Mix Macadam)

Date of test : 03-11-22

Oven Dry Weight : 11000 Grams

IS Sieve Size(mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	% Cumulative Weight Retained	% Passing	Spec.I.Vide Table 400.13 MORTH Specification
53	0	0	0.0	100.0	100
45	225	225	2.0	98.0	95-100
22.4	2585	2810	25.5	74.5	60-80
11.2	2245	5055	46.0	54.0	40-60
4.75	2189	7244	65.9	34.1	25-40
2.36	1525	8769	79.7	20.3	15-30
0.6	1225	9994	90.9	9.1	8-22
0.075	638	10632	96.7	3.3	0-5

* The results obtained are satisfactory as per standard requirements.

AR-09

AEE (VRP) SD

CIVIL Pro Sig..... Date..... BANGALORE

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TEST REPORT OF AGGEGRATE IMPACT VALUE
IS: 2386 Part IV

Lab ID : **CP-RW-2022-11-03-01** **Date: 05-11-22**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer Reference : BBMP/EE/BTP/WO/63/2022-23

Source of Sample : Pilappa Layout

Date of Receipt : 03-11-22

Type of Mix : Coarse Aggregate for WMM (Wet Mix Macadam)

Date of test : 03-11-22

Sl.No	Particulars of observations	Index	TEST 1	TEST 2
1	Total weight of the surface dry sample sample (passing 12.5 mm and retained on 10mm sieve)	A	300.2	300.2
2	Weight of fraction passing 2.36mm sieve After giving 15 blows	B	73.9	74.0
3	weight of fraction retained 2.36mm sieve After giving 15 blows	C	225.9	225.8
4	Total weight of (B+C) is less than the initial weight (Weight A) by more than one gram the result shall be discarded and a fresh test made.	A-(B+C)	0.4	0.4
5	Aggregate impact value	(B/A)*100	24.6	24.7
6	Aggregate impact value (Mean of two tests)	Pecentage	24.6	

* The results obtained are satisfactory as per standard requirements.

AE-09

AEE (VRP) SD

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.
R KARTHIK RECHAN
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Quality Manager

End of Report

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HIGHWAY & BUILDING MATERIALS TESTING LABORATORY | STRUCTURAL | ENVIRONMENTAL
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DETERMINATION OF FLAKINESS INDEX AND ELONGATION INDEX OF COARSE AGGREGATE(IS 2386 (Part 1) 1963 (RA 2007)

Lab ID : **CP-RW-2022-11-03-01** **Date: 05-11-22**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer Reference : BBMP/EE/BTP/WO/63/2022-23

Source of Sample : Pilappa Layout

Date of Receipt : 03-11-22

Type of Mix : Coarse Aggregate for WMM (Wet Mix Macadam)

Date of test : 03-11-22

Result:

Index	Percentage of Flakiness and Elongation Index	Secified limits as per MORTH specification table 400-12
Flakiness Index	12.8%	Combined Flakiness & Elongation Index for WMM is Maximum 35%
Elongation Index	12.5%	
Combined Flakiness and Elongation Index for WMM	25.3%	

* The results obtained are satisfactory as per standard requirements.

AE-09

AEE (VRP) SD

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Certificate No.: TC-5548

Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-11-04-01** **Date: 10/11/2022**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 04-11-22

Customer ID : Coping Concrete- 7th Cross, Ganesh Nagar

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M15 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 10/11/2022

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Coping Concrete-7th Cross, Ganesh Nagar	M15	03/11/2022	10/11/2022	150.63 X 149.01 X 151.97	22447	8.527	287.5	12.8	12.7
2	Coping Concrete-7th Cross, Ganesh Nagar	M15	03/11/2022	10/11/2022	149.34 X 151.28 X 149.37	22591	8.702	282.1	12.5	
3	Coping Concrete-7th Cross, Ganesh Nagar	M15	03/11/2022	10/11/2022	150.95 X 150.98 X 151.57	22791	8.124	292.8	12.8	

The results obtained are satisfactory as per standard requirements.

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Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-11-04-01** **Date: 01/12/2022**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 04-11-22

Customer ID : Coping Concrete- 7th Cross, Ganesh Nagar

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M15 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 01/12/2022

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Coping Concrete-7th Cross, Ganesh Nagar	M15	03/11/2022	01/12/2022	150.52 X 151.20 X 151.92	22758	8.602	392.0	17.2	17.5
2	Coping Concrete-7th Cross, Ganesh Nagar	M15	03/11/2022	01/12/2022	150.27 X 151.87 X 150.84	22821	8.485	407.2	17.8	
3	Coping Concrete-7th Cross, Ganesh Nagar	M15	03/11/2022	01/12/2022	151.54 X 151.80 X 150.18	23003	8.802	402.6	17.5	

* The results obtained are satisfactory as per standard requirements.

AE-09

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-11-10-01** **Date: 16/11/2022**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 10-11-22

Customer ID : Coping Concrete

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M15 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 16/11/2022

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Coping Concrete	M15	09/11/2022	16/11/2022	150.90 X 151.98 X 150.91	22934	8.276	286.3	12.5	12.3
2	Coping Concrete	M15	09/11/2022	16/11/2022	151.72 X 149.06 X 151.01	22614	8.912	277.4	12.3	
3	Coping Concrete	M15	09/11/2022	16/11/2022	151.60 X 149.25 X 151.51	22625	8.911	274.5	12.1	

* The results obtained are satisfactory as per standard requirements.

AE-09

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-11-10-01** **Date: 07/12/2022**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 10-11-22

Customer ID : Coping Concrete

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M15 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 07/12/2022

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Coping Concrete	M15	09/11/2022	07/12/2022	149.43 X 150.42 X 149.85	22478	8.762	394.4	17.5	17.8
2	Coping Concrete	M15	09/11/2022	07/12/2022	150.06 X 151.20 X 150.25	22689	8.422	406.5	17.9	
3	Coping Concrete	M15	09/11/2022	07/12/2022	150.51 X 151.08 X 151.96	22740	8.909	404.9	17.8	

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-11-10-01** **Date: 16/11/2022**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 10-11-22

Customer ID : Coping Concrete

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M15 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 16/11/2022

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Coping Concrete	M15	09/11/2022	16/11/2022	150.96 X 149.05 X 149.07	22500	8.403	270.8	12.0	12.3
2	Coping Concrete	M15	09/11/2022	16/11/2022	149.38 X 149.99 X 150.78	22407	8.991	283.7	12.7	
3	Coping Concrete	M15	09/11/2022	16/11/2022	151.47 X 150.97 X 149.02	22867	9.053	279.6	12.2	

* The results obtained are satisfactory as per standard requirements.

AE-09

AEE (VRP) SD

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Authorized Signatory
Quality Manager

****End of Report****

Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-11-10-01** **Date: 07/12/2022**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 10-11-22

Customer ID : Coping Concrete

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M15 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 07/12/2022

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Coping Concrete	M15	09/11/2022	07/12/2022	151.37 X 150.10 X 149.84	22721	8.129	394.8	17.4	17.3
2	Coping Concrete	M15	09/11/2022	07/12/2022	150.78 X 149.69 X 151.36	22570	8.776	386.9	17.1	
3	Coping Concrete	M15	09/11/2022	07/12/2022	151.60 X 149.60 X 151.45	22680	9.084	392.3	17.3	

* The results obtained are satisfactory as per standard requirements.

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****End of Report****

Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-11-10-01** **Date: 16/11/2022**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 10-11-22

Customer ID : Coping Concrete

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M15 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 16/11/2022

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Coping Concrete	M15	09/11/2022	16/11/2022	151.04 X 151.81 X 150.57	22930	8.573	278.1	12.1	12.4
2	Coping Concrete	M15	09/11/2022	16/11/2022	149.44 X 150.61 X 151.66	22508	8.857	289.8	12.9	
3	Coping Concrete	M15	09/11/2022	16/11/2022	151.70 X 151.70 X 150.00	23014	9.054	283.0	12.3	

* The results obtained are satisfactory as per standard requirements.

AE-09

CIVIL Pro Sig..... Date..... BANGALORE

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Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-11-10-01** **Date: 07/12/2022**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 10-11-22

Customer ID : Coping Concrete

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M15 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 07/12/2022

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Coping Concrete	M15	09/11/2022	07/12/2022	149.30 X 149.16 X 149.84	22269	8.855	386.7	17.4	17.2
2	Coping Concrete	M15	09/11/2022	07/12/2022	150.25 X 150.39 X 151.41	22597	8.296	385.6	17.1	
3	Coping Concrete	M15	09/11/2022	07/12/2022	149.63 X 149.22 X 149.81	22327	8.896	386.4	17.3	

* The results obtained are satisfactory as per standard requirements.

AE-09

AEE (VRP) SD

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TEST RESULTS OF GRADATION FOR WMM

Lab ID : **CP-RW-2022-11-18-01** **Date: 20-11-22**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer Reference : BBMP/EE/BTP/WO/63/2022-23

Source of Sample : Ganesh Nagar

Date of Receipt : 18-11-22

Type of Mix : WMM (Wet Mix Macadam)

Date of test : 18-11-22

Oven Dry Weight : 11000 Grams

IS Sieve Size(mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	% Cumulative Weight Retained	% Passing	Spec.I.Vide Table 400.13 MORTH Specification
53	0	0	0.0	100.0	100
45	312	312	2.8	97.2	95-100
22.4	2251	2563	23.3	76.7	60-80
11.2	2180	4743	43.1	56.9	40-60
4.75	2250	6993	63.6	36.4	25-40
2.36	1618	8611	78.3	21.7	15-30
0.6	626	9237	84.0	16.0	8-22
0.075	1345	10582	96.2	3.8	0-5

* The results obtained are satisfactory as per standard requirements.

AE-09

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TEST REPORT OF AGGEGRATE IMPACT VALUE
IS: 2386 Part IV

Lab ID	:	**CP-RW-2022-11-03-01** **Date: 20-11-22**
Project Name	:	Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)
Agency	:	Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024
Customer Reference	:	BBMP/EE/BTP/WO/63/2022-23
Source of Sample	:	Ganesh Nagar
Date of Receipt	:	18-11-22
Type of Mix	:	Coarse Aggregate for WMM (Wet Mix Macadam)
Date of test	:	18-11-22

Sl.No	Particulars of observations	Index	TEST 1	TEST 2
1	Total weight of the surface dry sample sample (passing 12.5 mm and retained on 10mm sieve)	A	300.2	300.2
2	Weight of fraction passing 2.36mm sieve After giving 15 blows	B	72.7	74.2
3	weight of fraction retained 2.36mm sieve After giving 15 blows	C	225.2	225.5
4	Total weight of (B+C) is less than the initial weight (Weight A) by more than one gram the result shall be discarded and a fresh test made.	A-(B+C)	2.3	0.5
5	Aggregate impact value	(B/A)*100	24.2	24.7
6	Aggregate impact value (Mean of two tests)	Pecentage	24.5	

* The results obtained are satisfactory as per standard requirements.

Q3 / AE-09

AEE (VRP) SD

CIVIL Pro Sig..... Date..... BANGALORE

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DETERMINATION OF FLAKINESS INDEX AND ELONGATION INDEX OF COARSE AGGREGATE(IS 2386 (Part 1) 1963 (RA 2007)

Lab ID	:	**CP-RW-2022-11-03-01** **Date: 20-11-22**
Project Name	:	Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)
Agency	:	Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024
Customer Reference	:	BBMP/EE/BTP/WO/63/2022-23
Source of Sample	:	Ganesh Nagar
Date of Receipt	:	18-11-22
Type of Mix	:	Coarse Aggregate for WMM (Wet Mix Macadam)
Date of test	:	18-11-22

Result:

Index	Percentage of Flakiness and Elongation Index	Secified limits as per MORTH specification table 400-12
Flakiness Index	12.5%	Combined Flakiness & Elongation Index for WMM is Maximum 35%
Elongation Index	12.2%	
Combined Flakiness and Elongation Index for WMM	24.7%	

* The results obtained are satisfactory as per standard requirements.

AE-09

CIVIL Pro Sig..... Date..... BANGALORE

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TEST RESULTS OF GRADATION FOR WMM

Lab ID : **CP-RW-2022-11-23-01** **Date: 25-11-22**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer Reference : BBMP/EE/BTP/WO/63/2022-23

Source of Sample : Siddi Vinayaka Layout

Date of Receipt : 23-11-22

Type of Mix : WMM (Wet Mix Macadam)

Date of test : 23-11-22

Oven Dry Weight : 11000 Grams

IS Sieve Size(mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	% Cumulative Weight Retained	% Passing	Spec.I.Vide Table 400.13 MORTH Specification
53	0	0	0.0	100.0	100
45	402	402	3.7	96.3	95-100
22.4	2189	2591	23.6	76.4	60-80
11.2	2056	4647	42.2	57.8	40-60
4.75	2165	6812	61.9	38.1	25-40
2.36	1535	8347	75.9	24.1	15-30
0.6	1589	9936	90.3	9.7	8-22
0.075	596	10532	95.7	4.3	0-5

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT OF AGGEGRATE IMPACT VALUE
IS: 2386 Part IV

Lab ID	:	**CP-RW-2022-11-03-01** **Date: 25-11-22**
Project Name	:	Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)
Agency	:	Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024
Customer Reference	:	BBMP/EE/BTP/WO/63/2022-23
Source of Sample	:	Siddi Vinayaka Layout
Date of Receipt	:	23-11-22
Type of Mix	:	Coarse Aggregate for WMM (Wet Mix Macadam)
Date of test	:	23-11-22

Sl.No	Particulars of observations	Index	TEST 1	TEST 2
1	Total weight of the surface dry sample sample (passing 12.5 mm and retained on 10mm sieve)	A	300.2	300.2
2	Weight of fraction passing 2.36mm sieve After giving 15 blows	B	74.7	74.4
3	weight of fraction retained 2.36mm sieve After giving 15 blows	C	225.1	225.2
4	Total weight of (B+C) is less than the initial weight (Weight A) by more than one gram the result shall be discarded and a fresh test made.	A-(B+C)	0.4	0.6
5	Aggregate impact value	(B/A)*100	24.9	24.8
6	Aggregate impact value (Mean of two tests)	Pecentage	24.8	

* The results obtained are satisfactory as per standard requirements.

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DETERMINATION OF FLAKINESS INDEX AND ELONGATION INDEX OF COARSE AGGREGATE(IS 2386 (Part 1) 1963 (RA 2007)

Lab ID	:	**CP-RW-2022-11-03-01** **Date: 25-11-22**
Project Name	:	Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)
Agency	:	Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024
Customer Reference	:	BBMP/EE/BTP/WO/63/2022-23
Source of Sample	:	Siddi Vinayaka Layout
Date of Receipt	:	23-11-22
Type of Mix	:	Coarse Aggregate for WMM (Wet Mix Macadam)
Date of test	:	23-11-22

Result:

Index	Percentage of Flakiness and Elongation Index	Secified limits as per MORTH specification table 400-12
Flakiness Index	12.9%	Combined Flakiness & Elongation Index for WMM is Maximum 35%
Elongation Index	12.4%	
Combined Flakiness and Elongation Index for WMM	25.3%	

* The results obtained are satisfactory as per standard requirements.

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TEST RESULTS OF GRADATION FOR WMM

Lab ID : **CP-RW-2022-11-25-01** **Date: 28-11-22**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer Reference : BBMP/EE/BTP/WO/63/2022-23

Source of Sample : Pillappa Layout

Date of Receipt : 25-11-22

Type of Mix : WMM (Wet Mix Macadam)

Date of test : 25-11-22

Oven Dry Weight : 11000 Grams

IS Sieve Size(mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	% Cumulative Weight Retained	% Passing	Spec.I.Vide Table 400.13 MORTH Specification
53	0	0	0.0	100.0	100
45	425	425	3.9	96.1	95-100
22.4	2056	2481	22.6	77.4	60-80
11.2	1956	4437	40.3	59.7	40-60
4.75	2285	6722	61.1	38.9	25-40
2.36	1469	8191	74.5	25.5	15-30
0.6	1720	9911	90.1	9.9	8-22
0.075	756	10667	97.0	3.0	0-5

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT OF AGGEGRATE IMPACT VALUE
IS: 2386 Part IV

Lab ID	:	**CP-RW-2022-11-03-01** **Date: 27-11-22**
Project Name	:	Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)
Agency	:	Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024
Customer Reference	:	BBMP/EE/BTP/WO/63/2022-23
Source of Sample	:	Siddi Vinayaka Layout
Date of Receipt	:	25-11-22
Type of Mix	:	Coarse Aggregate for WMM (Wet Mix Macadam)
Date of test	:	25-11-22

Sl.No	Particulars of observations	Index	TEST 1	TEST 2
1	Total weight of the surface dry sample sample (passing 12.5 mm and retained on 10mm sieve)	A	300.2	300.2
2	Weight of fraction passing 2.36mm sieve After giving 15 blows	B	74.6	73.8
3	weight of fraction retained 2.36mm sieve After giving 15 blows	C	225.1	225.2
4	Total weight of (B+C) is less than the initial weight (Weight A) by more than one gram the result shall be discarded and a fresh test made.	A-(B+C)	0.5	1.2
5	Aggregate impact value	(B/A)*100	24.9	24.6
6	Aggregate impact value (Mean of two tests)	Pecentage	24.7	

* The results obtained are satisfactory as per standard requirements.

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DETERMINATION OF FLAKINESS INDEX AND ELONGATION INDEX OF COARSE AGGREGATE(IS 2386 (Part 1) 1963 (RA 2007)

Lab ID : **CP-RW-2022-11-03-01** **Date: 27-11-22**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer Reference : BBMP/EE/BTP/WO/63/2022-23

Source of Sample : Siddi Vinayaka Layout

Date of Receipt : 25-11-22

Type of Mix : Coarse Aggregate for WMM (Wet Mix Macadam)

Date of test : 25-11-22

Result:

Index	Percentage of Flakiness and Elongation Index	Secified limits as per MORTH specification table 400-12
Flakiness Index	12.7%	Combined Flakiness & Elongation Index for WMM is Maximum 35%
Elongation Index	12.3%	
Combined Flakiness and Elongation Index for WMM	25.0%	

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2022-12-08-01** **Date: 12-12-22**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 08-12-22

Sample Type : 40mm down size coarse aggregate

Reference to BIS codes : IS: 383:2016 (Specification for Coarse and fine Aggregates)
IS: 2386 :1963(Part - 1,3,4) RA2021
IS 2386 Part 1: Particle Size and Shape
IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption
IS 2386 Part 4: Mechanical Properties

Date of test : 08-12-22

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 40MM DOWN COARSE AGGREGATE:

Total weight taken : **15000** **grams**

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	80 mm	0	0	0.0	100	100
2	40 mm	423	423	2.8	97.2	90-100
3	20 mm	5852	6275	41.8	58.2	30-70
4	10 mm	4232	10507	70.0	30.0	10-35
5	4.75 mm	4225	14732	98.2	1.8	0-5
6	Pan	268	15000	100.0	0	---

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TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2022-12-08-01** **Date: 12-12-22**

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	12.3	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	11.5	
3	Specific Gravity	2.68	_
4	Bulk Density(Loose) (Kg/l)	1.56	_
5	Bulk Density(Compacted) (Kg/l)	1.59	_
6	Water Absorption(%)	0.21	_

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2022-12-08-01** **Date: 12-12-22**
Project Name	:	Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)
Agency	:	Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024
Customer Reference	:	BBMP/EE/BTP/WO/63/2022-23
Date of Receipt	:	08-12-22
Sample Type/ Size	:	20mm down size coarse aggregate
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2021 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties
Date of test	:	08-12-22

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 20MM DOWN COARSE AGGREGATE:

Total weight taken : 5000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	40 mm	0	0	0	100	100
2	20 mm	255	255	5.1	94.9	90-100
3	10 mm	2789	3044	60.9	39.1	25-55
4	4.75 mm	1545	4589	91.8	8.2	0-10
5	Pan	411	5000	100	0	_

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TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2022-12-08-01** **Date: 12-12-22**

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	13.2	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	12.4	
3	Specific Gravity	2.65	–
4	Bulk Density(Loose) (Kg/l)	1.53	–
5	Bulk Density(Compacted) (Kg/l)	1.55	–
6	Water Absorption(%)	0.22	–
7	Aggregate crushing Value(%)	24.1	Max 30% for Aggregates to be used in concrete for wearing Surface, In case Aggregate Crushing Value Exceeds 30% then the test for ten percent fines should be conducted for Aggregates to be used in concrete other than for wearing Surface.
8	Aggregate Impact Value(%)	23.8	30% for Aggregates to be used in concrete for wearing Surface, 45% for Aggregates to be used in concrete other than for wearing Surface.

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT OF FINE AGGREGATE

Lab ID : **CP-2022-12-08-01** **Date: 12-12-22**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 08-12-22

Sample Type : Fine Aggregate

Reference to BIS codes : IS 383 : 2016 (Specification for Coarse and fine Aggregates)
IS: 2386 :1963(Part - 1, 3) RA2012
IS 2386 Part 1: Particle Size and Shape
IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption

Date of test : 08-12-22

Total weight taken : 1000 grams

Sl.no	Sieve Size	Weight Retained (gms)	Cumulative Weight Retained (gms)	% Cumulative Weight Retained	% Passing	Requirement as per IS 383:2016			
						Grading Zone I	Grading Zone II	Grading Zone III	Grading Zone IV
1	10 mm	0	0	0.0	100.0	100	100	100	100
2	4.75 mm	31	31	3.1	96.9	90-100	90-100	90-100	95-100
3	2.36 mm	192	223	22.3	77.7	60-95	75-100	85-100	95-100
4	1.18 mm	152	375	37.5	62.5	30-70	55-90	75-100	90-100
5	600 micron	255	630	63.0	37.0	15-34	35-59	60-79	80-100
6	300 micron	186	816	81.6	18.4	5-20	8-30	12-40	15-50
7	150 micron	89	905	90.5	9.5	0-10	0-10	0-10	0-15
8	Pan	95	1000	100.0	0.0	---	---	---	---

Result :The tested Sample Conforms to Grading Zone II

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TEST REPORT OF FINE AGGREGATE

Lab ID : **CP-2022-12-08-01** **Date: 12-12-22**

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS 383:2016
1	Water Absorption(%)	2.15	–
2	Specific Gravity	2.52	–
3	Material finer than 75 micron(%)	9.5	Uncrushed fine Aggregate Max 3%, Crushed Fine aggregate Max 15%, Mixed Fine aggregate Max 12%, Manufactured Fine aggregate Max 10%

* The results obtained are satisfactory as per standard requirements.

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TEST RESULTS OF STEEL

Lab ID : **CP-2022-12-12-01** **Date: 13-12-22**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 12-12-22

Sample Type : A One Gold

Reference to BIS codes : IS 1786-2008, IS:1608-2005(RA 2011), IS 1599-2019.

Date of test: : 12-12-22

Sl.No	Identification of sample	Grade of the sample	Diameter of the steel bar	Weight of the sample	Yield stress	Tensile strength	Elongation	Bend test	Rebend test
			(mm)	(kg/m)	(N/mm2)	(N/mm2)	(%)		
1	A One Gold	Fe550	8	0.391	512	652	20.0%	Satisfactory	Satisfactory
2	A One Gold	Fe550	10	0.616	528	672	20.0%	Satisfactory	Satisfactory
3	A One Gold	Fe500	12	0.888	544	668	20.0%	Satisfactory	Satisfactory

* The results obtained are satisfactory as per standard requirements.

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Spectro Chemical Analysis, Physical, Non Destructive All Type of Metal Testing

Lab ID : **CP-2022-08-22-01** **Date: 15-12-22**

Project Name : Improvements to Roads and Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding Areas in Ward No. 09 (Vidyaranyapura)

Agency : Sri. K Shankar Reddy, No:18, K No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 12-12-22

Sample Type / Grade : A One Gold

Date of test : 12-12-22

CHEMICAL ANALYSIS

Sl. No.	Chemical Contents	8mm	10mm	12mm	Max. Limits as per IS:1786-2008, Gr. Fe 550
1	Carbon (C) %	0.124	0.142	0.154	0.300 Max
2	Phosphor (P) %	0.038	0.045	0.045	0.050 Max
3	Sulphur (S) %	0.044	0.037	0.045	0.055Max
4	Sulphur & Phosphorus %	0.079	0.076	0.075	0.100 Max

Note : The above material confirms to ASI S S 304 with respect to elements analysed

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TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID : **CP-2022-12-19-01** **Date: 22-12-22**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 19-12-22

Sample Type : Dalmia 53grade

Reference to BIS codes : IS 269:2015 Ordinary Portland cement Specification ,
IS 4031 (Part 4,5):1988
IS 4031 Part 1 (RA 2021) DETERMINATION OF FINENESS BY DRY SIEVING, Clause 4.4
IS 4031 Part 2, (RA 2018) Determination of Fineness by Blaine Air Permeability
IS 4031 Part 3, (RA 2019) Determination of Soundness, Clause 5, Clause 6
IS 4031 Part 4, (RA 2019) Determination of Consistency of Standard Cement Paste, Clause 5
IS 4031 Part 5, (RA 2019) Determination of Initial & Final Setting Time, Clause 5
IS 4031 Part 11, (RA 2019)DETERMINATION OF DENSITY , Clause 6

Date of test : 20-12-22

Environmental Conditions during test : Temperature: 26°C
Humidity: 72%

Sl.No.	Physical properties	Results	Requirement as per IS 269:2015
1	Fineness by dry sieving (%)	1.14	_
2	Finess by Air permeablity method (m^2/kg,Min)	281.6	225m^2/kg, Min
3	Density (gm/cc)	3.14	_
4	Standard Consistency (%)	28.5%	Not specified
5	Initial Setting time	155 minutes	Not less than 30 minutes
6	Final Setting time	270 minutes	Not more than 600 minutes
7	Soundness (Le Chatelier's Method)	1.0mm	Not more than 10 mm

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID	:	**CP-2022-12-19-01** **Date: 17-01-23**
Project Name	:	Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)
Agency	:	Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024
Customer's Reference	:	BBMP/EE/BTP/WO/63/2022-23
Date of Receipt	:	19-12-22
Sample Type	:	Dalmia 53grade
Reference to BIS codes	:	IS 269:2015 Ordinary Portland cement Specification , IS 4031 (Part 4,5):1988 , IS 4031 Part 4, (RA 2019) Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 6, (RA 2019) Determination of Compressive Strength, Clause 6
Date of test	:	20-12-22
Environmental Conditions during test	:	Temperature: 26°C Humidity: 72%

Compressive Strength

Sl.No.	Physical properties	Results	Requirement as per IS 269:2015
1	3 Days	28.5N/mm^2	Not less than 27 N/mm^2
2	7 Days	39.0N/mm^2	Not less than 37 N/mm^2
3	28 Days	58.5N/mm^2	Not less than 53 N/mm^2

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-12-29-01** **Date: 04/01/2023**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 29-12-22

Customer ID : Drain Bottom Raft - 7th Cross Road, Ganesh Nagar

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 04/01/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Bottom Raft - 7th Cross Road, Ganesh Nagar	M20	28/12/2022	04/01/2023	151.31 X 150.70 X 150.09	22802	8.314	429.0	18.8	18.8
2	Drain Bottom Raft - 7th Cross Road, Ganesh Nagar	M20	28/12/2022	04/01/2023	150.31 X 150.71 X 151.73	22654	8.312	425.7	18.8	
3	Drain Bottom Raft - 7th Cross Road, Ganesh Nagar	M20	28/12/2022	04/01/2023	150.31 X 150.71 X 151.11	22653	8.251	428.4	18.9	

* The results obtained are satisfactory as per standard requirements.

AE-09

AEE (VRP) SD

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FOR CIVIL Pro.

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

****End of Report****

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Certificate No.: TC-5548

Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2022-12-29-01** **Date: 25/01/2023**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 29-12-22

Customer ID : Drain Bottom Raft - 7th Cross Road, Ganesh Nagar

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 25/01/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Bottom Raft - 7th Cross Road, Ganesh Nagar	M20	28/12/2022	25/01/2023	149.92 X 150.19 X 151.49	22517	8.426	524.1	23.3	23.0
2	Drain Bottom Raft - 7th Cross Road, Ganesh Nagar	M20	28/12/2022	25/01/2023	150.09 X 149.54 X 151.87	22444	8.291	495.2	22.1	
3	Drain Bottom Raft - 7th Cross Road, Ganesh Nagar	M20	28/12/2022	25/01/2023	150.57 X 151.03 X 150.60	22740	8.265	540.6	23.8	

* The results obtained are satisfactory as per standard requirements.

AE-09

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2023-01-11-01** **Date: 17/01/2023**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 11-01-23

Customer ID : Drain Bottom Raft - 7th Cross Road, Ganesh Nagar

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 17/01/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Bottom Raft - 7th Cross Road, Ganesh Nagar	M20	10/01/2023	17/01/2023	150.49 X 150.49 X 151.48	22647	8.780	415.5	18.3	18.3
2	Drain Bottom Raft - 7th Cross Road, Ganesh Nagar	M20	10/01/2023	17/01/2023	151.14 X 149.59 X 151.53	22609	8.826	416.5	18.4	
3	Drain Bottom Raft - 7th Cross Road, Ganesh Nagar	M20	10/01/2023	17/01/2023	149.34 X 150.57 X 151.28	22486	8.559	405.9	18.1	

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2023-01-11-01** **Date: 07/02/2023**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 11-01-23

Customer ID : Drain Bottom Raft - 7th Cross Road, Ganesh Nagar

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 07/02/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Bottom Raft - 7th Cross Road, Ganesh Nagar	M20	10/01/2023	07/02/2023	151.72 X 149.79 X 149.39	22727	8.136	541.2	23.8	23.3
2	Drain Bottom Raft - 7th Cross Road, Ganesh Nagar	M20	10/01/2023	07/02/2023	151.94 X 149.79 X 149.93	22759	8.279	522.4	23.0	
3	Drain Bottom Raft - 7th Cross Road, Ganesh Nagar	M20	10/01/2023	07/02/2023	151.28 X 149.31 X 149.01	22588	8.973	524.3	23.2	

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2023-01-16-01** **Date: 20/01/2023**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 16-01-23

Customer ID : Drain Side Wall - 7th Cross Road, Ganesh Nagar

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 20/01/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Side Wall - 7th Cross Road, Ganesh Nagar	M20	13/01/2023	20/01/2023	151.85 X 151.99 X 151.97	23080	8.493	434.5	18.8	18.6
2	Drain Side Wall - 7th Cross Road, Ganesh Nagar	M20	13/01/2023	20/01/2023	149.92 X 150.77 X 149.15	22603	8.341	425.7	18.8	
3	Drain Side Wall - 7th Cross Road, Ganesh Nagar	M20	13/01/2023	20/01/2023	149.91 X 150.53 X 151.17	22565	8.358	412.5	18.3	

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2023-01-16-01** **Date: 10/02/2023**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 16-01-23

Customer ID : Drain Side Wall - 7th Cross Road, Ganesh Nagar

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 10/02/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Side Wall - 7th Cross Road, Ganesh Nagar	M20	13/01/2023	10/02/2023	150.99 X 151.91 X 149.74	22936	8.737	537.4	23.4	23.2
2	Drain Side Wall - 7th Cross Road, Ganesh Nagar	M20	13/01/2023	10/02/2023	151.02 X 151.71 X 150.30	22911	8.838	514.7	22.5	
3	Drain Side Wall - 7th Cross Road, Ganesh Nagar	M20	13/01/2023	10/02/2023	150.30 X 150.98 X 151.91	22691	8.419	536.1	23.6	

* The results obtained are satisfactory as per standard requirements.

AEE (VRP) SD

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2023-01-17-01** **Date: 23/01/2023**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 17-01-23

Customer ID : Drain Side Wall - 7th Cross Road, Ganesh Nagar

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 23/01/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Side Wall - 7th Cross Road, Ganesh Nagar	M20	16/01/2023	23/01/2023	150.73 X 149.74 X 151.39	22570	**8.938**	414.8	18.4	18.3
2	Drain Side Wall - 7th Cross Road, Ganesh Nagar	M20	16/01/2023	23/01/2023	149.28 X 150.93 X 150.08	22531	**8.818**	411.3	18.3	
3	Drain Side Wall - 7th Cross Road, Ganesh Nagar	M20	16/01/2023	23/01/2023	149.37 X 150.84 X 150.55	22531	**8.396**	409.8	18.2	

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2023-01-17-01** **Date: 13/02/2023**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 17-01-23

Customer ID : Drain Side Wall - 7th Cross Road, Ganesh Nagar

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 13/02/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Side Wall - 7th Cross Road, Ganesh Nagar	M20	16/01/2023	13/02/2023	149.01 X 150.34 X 151.14	22402	8.126	532.2	23.8	23.4
2	Drain Side Wall - 7th Cross Road, Ganesh Nagar	M20	16/01/2023	13/02/2023	151.51 X 151.37 X 150.12	22934	8.877	519.8	22.7	
3	Drain Side Wall - 7th Cross Road, Ganesh Nagar	M20	16/01/2023	13/02/2023	149.27 X 151.52 X 151.65	22619	8.215	538.5	23.8	

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2023-01-17-01** **Date: 23/01/2023**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 17-01-23

Customer ID : Culvert Bottom Raft Concrete - 8th A Main Road

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 23/01/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Culvert Bottom Raft Concrete - 8th A Main Road	M20	16/01/2023	23/01/2023	150.53 X 149.04 X 149.89	22436	8.137	412.1	18.4	18.7
2	Culvert Bottom Raft Concrete - 8th A Main Road	M20	16/01/2023	23/01/2023	149.45 X 149.10 X 150.90	22284	8.325	420.0	18.8	
3	Culvert Bottom Raft Concrete - 8th A Main Road	M20	16/01/2023	23/01/2023	151.29 X 149.46 X 149.73	22612	8.423	425.1	18.8	

* The results obtained are satisfactory as per standard requirements.

AEE (VRP) SD

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Quality Manager

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2023-01-17-01** **Date: 13/02/2023**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 17-01-23

Customer ID : Culvert Bottom Raft Concrete - 8th A Main Road

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 13/02/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Culvert Bottom Raft Concrete - 8th A Main Road	M20	16/01/2023	13/02/2023	150.05 X 149.42 X 149.82	22421	8.421	534.0	23.8	23.2
2	Culvert Bottom Raft Concrete - 8th A Main Road	M20	16/01/2023	13/02/2023	149.72 X 150.01 X 149.05	22460	8.150	497.1	22.1	
3	Culvert Bottom Raft Concrete - 8th A Main Road	M20	16/01/2023	13/02/2023	151.37 X 150.72 X 150.03	22815	8.639	541.9	23.8	

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2023-01-18-01** **Date: 24/01/2023**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 18-01-23

Customer ID : Culvert Side Wall Concrete - 8th A Main Road

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 24/01/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Culvert Side Wall Concrete - 8th A Main Road	M20	17/01/2023	24/01/2023	150.63 X 151.74 X 149.55	22857	8.902	424.3	18.6	18.2
2	Culvert Side Wall Concrete - 8th A Main Road	M20	17/01/2023	24/01/2023	149.33 X 149.45 X 149.16	22317	8.554	402.1	18.0	
3	Culvert Side Wall Concrete - 8th A Main Road	M20	17/01/2023	24/01/2023	151.52 X 149.13 X 151.64	22597	8.926	410.1	18.1	

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2023-01-18-01** **Date: 14/02/2023**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 18-01-23

Customer ID : Culvert Side Wall Concrete - 8th A Main Road

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 14/02/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Culvert Side Wall Concrete - 8th A Main Road	M20	17/01/2023	14/02/2023	150.64 X 149.17 X 149.18	22470	8.948	531.3	23.6	23.3
2	Culvert Side Wall Concrete - 8th A Main Road	M20	17/01/2023	14/02/2023	149.08 X 149.84 X 150.87	22338	8.746	501.2	22.4	
3	Culvert Side Wall Concrete - 8th A Main Road	M20	17/01/2023	14/02/2023	151.89 X 151.45 X 151.87	23003	8.862	550.1	23.9	

* The results obtained are satisfactory as per standard requirements.

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Format No: CP/TF/01

TEST REPORT OF PRECAST COVER SLAB

Lab ID : **CP-2023-01-18-01** **Date: 23-01-23**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 18-01-23

Sample Type /Size : Precast Cover Slab - 100mm Thick

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete

Date of test : 18/01/2023

Grade of Slab : M15

Sl. No.	Identification Mark	Diameter of the core	Height of the core	Weight of the core	Area	Failure Load	Core Compressive strength	Corrected Cylinder Compressive strength	Equivalent Cube Compressive strength
		(mm)	(mm)	(kg)	(Sq.mm)	(KN)	(N/mm^2)	(N/mm^2)	(N/mm^2)
1	Cover Slab-1	77.51	100.48	1.116	4718	80.9	17.1	15.9	19.9
2	Cover Slab-2	77.49	100.52	1.122	4715	82.3	17.5	16.2	20.3
3	Cover Slab-3	77.50	100.51	1.118	4716	81.5	17.3	16.1	20.1

The results obtained are satisfactory as per standard requirements.

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Certificate No.: TC-5548

Format No: CP/TF/01

TEST REPORT OF PRECAST COVER SLAB

Lab ID : **CP-2023-01-18-01** **Date: 23-01-23**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 18-01-23

Sample Type /Size : Precast Cover Slab -250mm Thick

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete

Date of test : 18/01/2023

Grade of Slab : M15

Sl. No.	Identification Mark	Diameter of the core	Height of the core	Weight of the core	Area	Failure Load	Core Compressive strength	Corrected Cylinder Compressive strength	Equivalent Cube Compressive strength
		(mm)	(mm)	(kg)	(Sq.mm)	(KN)	(N/mm^2)	(N/mm^2)	(N/mm^2)
1	Cover Slab-1	77.45	100.38	1.110	4710	81.9	17.4	16.2	20.2
2	Cover Slab-2	77.23	100.71	1.100	4684	80.3	17.1	15.9	19.9
3	Cover Slab-3	77.79	100.45	1.119	4752	82.9	17.4	16.2	20.3

The results obtained are satisfactory as per standard requirements.

AEE (VRP) SD

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Format No: CP/TF/01

TEST REPORT ON BITUMEN

Lab ID : **CP-RW-2022-12-19-01** **Date: 21-12-22**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 19-12-22

Sample Type : Bitumen

Reference to BIS codes : IS: 1201-2021, IS: 1202-1220(1978) (Reaffirmed-2019)

Date of test : 19-12-22

Test Results

Sl.no	Name of Test	Result	Requirements as per IS:73-2013
1	Penetration at 25°C , in 1/10th mm	**64**	Min 45 mm
2	Softening Point, °C	**51.2**	Min. 47°C
3	Ductility, cm	**98**	Min. 40 cm
4	Flash point, °C	**280**	Min. 220°C
	Fire point, °C	**295**	

* The results obtained are satisfactory as per standard requirements.

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Page 1/1
****End of Report****

TEST RESULTS OF GRADATION FOR DBM
(IS 2386:(Part 1) 1963 (RA2011)

Lab ID : **CP-RW-2022-12-21-01** **Date: 23-12-22**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 21-12-22

Type of Mix : DBM-Plant (Dense Bituminous Macadam)

Date of test : 21-12-22

Weight of Sample : 5000 Grams

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Specification Limits as per MORTH specification Table 500-10 (grading -2)
37.5	0	0	0	100	100
26.5	250	250	5.00	95.00	90-100
19	350	600	12.00	88.00	71-95
13.2	450	1050	21.00	79.00	56-80
4.75	1750	2800	56.00	44.00	38-54
2.36	400	3200	64.00	36.00	28-42
0.3	1350	4550	91.00	9.00	7-21
0.075	250	4800	96.00	4.00	2-8
PAN	200	5000	0.00	0	0

* The results obtained are satisfactory as per standard requirements.

AE-09

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Quality Manager

End of Report

PHYSICAL REQUIREMENTS FOR COARSE AGGREGATE FOR DENSE BITUMINOUS MACADAM

Lab ID : **CP-RW-2022-12-21-01** **Date: 24-12-22**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 21-12-22

Type of Mix : DBM (Dense Bituminous Macadam)

Date of test : 21-12-22

Table 500-6 : Physical Requirements fo Coarse Aggregate for Dense Bituminous Macadam

Property	Test	Result	Specification	Method of Test
Partical Shape	Flakiness Index	12.0	Combined Flakiness & Elongation Index for DBM is Maximum 35%	IS:2386 Part I
	Elongation Index	8.0		
Strength	Aggregate Impact Value	20.0	Maximum 30%	IS:2386 Part IV
Specific gravity	Specific gravity	2.58	Maximum 2.7	IS:2386 Part III
Water Absorption	Water Absorption	0.38	Maximum 2%	IS:2386 Part III

* The results obtained are satisfactory as per standard requirements.

AB-09

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R KARTHIK RECHAN
Authorized Signatory
Quallity Manager

End of Report

TESTS RESULTS ON STABILITY OF MIX

Lab ID : **CP-RW-2022-12-21-01** **Date: 24-12-22**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 21-12-22

Type of Mix : DBM (Dense Bituminous Mecadam)

Date of test : 21-12-22

The results of the tests conducted on the Dense Bituminous Macadam mix sample are as follow

Sl.No	Particulars of observations	TEST 1	TEST 2	Secified limits as per MORTH specification table 500-11
1	Marshal Stability at 60°C, KN	11.29	11.82	9KN(Min)
2	Marshal flow at 60°C, mm	3.54	3.87	2-4
3	Percent air Voids	4.56	4.17	3-5
4	Percent Voids in mineral Aggregate(VMA %)	14.54	14.76	13-15
5	Percent Voids filled with Bitumen(VFB %)	68.98	70.28	65-75
6	Density, g/cc	2.42	2.40	–

* The results obtained are satisfactory as per standard requirements.

BBMP-09

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End of Report

TEST REPORT OF AGGEGRATE STRIPPING VALUE OF ROAD AGGRGATE (IS:6241)

Lab ID : **CP-RW-2022-12-21-01** **Date: 24-12-22**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 21-12-22

Type of Mix : DBM(Dense Bitumnous Macadam)

Date of test : 21-12-22

Type of Binder : 60/70

% of Binder Used : 4.5%

Weight of Aggregate : 200.0 gm

Weight of Binder : 9.0 gm

Temperature of water bath : 40°C

No of test	Retained Stripping Percentage	Stripping Percentage	Average Retained Stripping Percentage	Secified limits as per MORTH specification table 500-8
1	98.0	2.0	98.2	Minimum Retained Coating 95%
2	98.5	1.5		
3	98.0	2.0		

* The results obtained are satisfactory as per standard requirements.

Ref: AE-09

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TEST RESULTS OF GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2007)

Lab ID : **CP-RW-2022-12-21-01** **Date: 23-12-22**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 21-12-22

Type of Mix : BC-Plant (Bituminous Concrete)

Date of test : 21-12-22

Oven Dry Weight : 5000 Grams

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-17(grading-2)
19	0	0	0.0	100.0	100
13.2	89	89	1.8	98.2	90-100
9.5	702	791	15.8	84.2	70-88
4.75	895	1686	33.7	66.3	53-71
2.36	587	2273	45.5	54.5	42-58
1.18	492	2765	55.3	44.7	34-48
0.6	503	3268	65.4	34.6	26-38
0.3	528	3796	75.9	24.1	18-28
0.15	458	4254	85.1	14.9	12-20
0.075	350	4604	92.1	7.9	4-10
PAN	396	5000	100	0.0	0

* The results obtained are satisfactory as per standard requirements.

AE-09

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TEST REPORT OF AGGEGRATE STRIPPING VALUE OF ROAD AGGRGATE (IS:6241)

Lab ID : **CP-RW-2022-12-21-01** **Date: 24-12-22**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 21-12-22

Type of Mix : BC(Bitumenous Concrete)

Date of test : 21-12-22

Type of Binder : 60/70

% of Binder Used : 5.4%

Weight of Aggregate : 200.0 gm

Weight of Binder : 10.8 gm

Temperature of water bath : 40°C

No of test	Retained Stripping Percentage	Stripping Percentage	Average Retained Stripping Percentage	Secified limits as per MORTH specification table 500-8
1	98.5	1.5	98.3	Minimum Retained Coating 95%
2	98.5	1.5		
3	98.0	2.0		

* The results obtained are satisfactory as per standard requirements.

AE-09

AEE (VRP) SD

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****End of Report****

PHYSICAL REQUIREMENTS FOR COARSE AGGREGATE FOR BITUMINOUS CONCRETE

Lab ID : **CP-RW-2022-12-21-01** **Date: 24-12-22**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 21-12-22

Type of Mix : BC (Bituminous Concrete)

Date of test : 21-12-22

Table 500-16 : Physical Requirements fo Coarse Aggregate for Bituminous Concrete

Property	Test	Result	Specification	Method of Test
Partical Shape	Flakiness Index	12.4	Combined Flakiness & Elongation Index for BC is Maximum 35%	IS:2386 Part I
	Elongation Index	11.8		
Strength	Aggregate Impact Value	22.1	Maximum 24%	IS:2386 Part IV
Specific gravity	Specific gravity	2.68	Maximum 2.7	IS:2386 Part III
Water Absorption	Water Absorption	0.21	Maximum 2%	IS:2386 Part III

* The results obtained are satisfactory as per standard requirements.

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Quallity Manager

End of Report

TESTS RESULTS ON STABILITY OF MIX

Lab ID : **CP-RW-2022-12-21-01** **Date: 24-12-22**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 21-12-22

Type of Mix : BC (Bituminous Concrete)

Date of test : 21-12-22

The results of the tests conducted on the Bituminous Concrete mix sample are as follow

Sl.No	Particulars of observations	TEST 1	TEST 2	Secified limits as per MORTH specification table 500-11
1	Marshal Stability at 60°C, KN	11.14	11.13	10KN(min)
2	Marshal flow at 60°C, mm	3.52	3.51	2-4
3	Percent air Voids	4.82	4.83	3-5
4	Percent Voids in mineral Aggregate(VMA %)	14.28	14.26	13-15
5	Percent Voids filled with Bitumen(VFB %)	71.87	71.63	65-75
6	Density, g/cc	2.25	2.26	–

* The results obtained are satisfactory as per standard requirements.

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TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR DBM (IS 2386:(Part 1) 1963 (RA2011)

Lab ID	:	**CP-RW-2023-01-27-01** **Date: 28-01-23**
Project Name	:	Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)
Agency	:	Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024
Customer Reference	:	BBMP/EE/BTP/WO/63/2022-23
Date of Receipt	:	27-01-23
Type of Mix	:	DBM (Dense Bituminous Macadam) Siddhi Vinayaka Layout, 4th Main road
Date of test	:	27-01-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	479.0	479.5
3	Initial weight of Paper	W3	4.1	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	1.9	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	4.58	4.50
7	Average percentage	%	4.54	

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

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Lab ID : **CP-RW-2023-01-27-01** **Date: 28-01-23**

AFTER EXTRACTION(Trail-1)

Weight of Sample(gm) : 479

IS Sieve Size(mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Specification Limits as per MORTH specification Table 500-10(grading -2)
37.5	0	0	0	100.0	100
26.5	14.4	14.4	3.01	97.0	90-100
19	24	38.4	8.02	92.0	71-95
13.2	120	158.4	33.07	66.9	56-80
4.75	96	254.4	53.11	46.9	38-54
2.36	80	334.4	69.81	30.2	28-42
0.3	62.4	396.8	82.84	17.2	7-21
0.075	52.8	449.6	93.86	6.1	2-8

AFTER EXTRACTION(Trail-2)

Weight of Sample(gm) : 479.5

IS Sieve Size(mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Specification Limits as per MORTH specification Table 500-10(grading -2)
37.5	0	0	0	100.0	100
26.5	14.8	14.8	3.09	96.9	90-100
19	24	38.8	8.09	91.9	71-95
13.2	120	158.8	33.12	66.9	56-80
4.75	96	254.8	53.14	46.9	38-54
2.36	78	332.8	69.41	30.6	28-42
0.3	62.4	395.2	82.42	17.6	7-21
0.075	52.8	448	93.43	6.6	2-8

* The results obtained are satisfactory as per standard requirements.

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.
R KARTHIK RECHAN
Authorized Signatory
Quality Manager

End of Report

TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR DBM
(IS 2386:(Part 1) 1963 (RA2011)

Lab ID	:	**CP-RW-2023-01-27-01**	**Date: 28-01-23**
Project Name	:	Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)	
Agency	:	Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024	
Customer Reference	:	BBMP/EE/BTP/WO/63/2022-23	
Date of Receipt	:	27-01-23	
Type of Mix	:	DBM (Dense Bituminous Macadam) Siddivinayak Layout, Cross Road-1	
Date of test	:	27-01-23	

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	479.0	478.5
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	5.5	5.5
5	Increase in weight of Filter Paper	W5=W4-W3	1.5	1.5
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	4.50	4.60
7	Average percentage	%	4.55	

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Lab ID : **CP-RW-2023-01-27-01** **Date: 28-01-23**

AFTER EXTRACTION(Trail-1)

Weight of Sample(gm) : 479.0

IS Sieve Size(mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Specification Limits as per MORTH specification Table 500-10(grading -2)
37.5	0	0	0	100.0	100
26.5	14.4	14.4	3.01	97.0	90-100
19	24	38.4	8.02	92.0	71-95
13.2	120	158.4	33.07	66.9	56-80
4.75	96	254.4	53.11	46.9	38-54
2.36	80	334.4	69.81	30.2	28-42
0.3	62.4	396.8	82.84	17.2	7-21
0.075	52.8	449.6	93.86	6.1	2-8

AFTER EXTRACTION(Trail-2)

Weight of Sample(gm) : 478.5

IS Sieve Size(mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Specification Limits as per MORTH specification Table 500-10(grading -2)
37.5	0	0	0	100.0	100
26.5	14.8	14.8	3.09	96.9	90-100
19	24	38.8	8.11	91.9	71-95
13.2	120	158.8	33.19	66.8	56-80
4.75	96	254.8	53.25	46.8	38-54
2.36	78	332.8	69.55	30.4	28-42
0.3	62.4	395.2	82.59	17.4	7-21
0.075	52.8	448	93.63	6.4	2-8

* The results obtained are satisfactory as per standard requirements.

AEE (VRP) SD

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.
R KARTHIK RECHAN
Authorized Signatory
Quality Manager

End of Report

TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID : **CP-RW-2023-01-27-01** **Date: 28-01-23**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 27-01-23

Type of Mix : BC (Bituminous Concrete) Siddhi Vinayaka Layout, 4th Main road

Date of test : 27-01-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	474.5	475
3	Initial weight of Paper	W3	4.1	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	1.9	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	5.48	5.40
7	Average percentage	%	5.44	

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

Lab ID : **CP-RW-2023-01-27-01** **Date: 28-01-23**

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 474.5

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	6	6	1.3	98.7	90-100
9.5	62	68	14.3	85.7	70-88
4.75	112	180	37.9	62.1	53-71
2.36	88	268	56.5	43.5	42-58
1.18	29	297	62.6	37.4	34-48
0.6	11	308	64.9	35.1	26-38
0.3	46	354	74.6	25.4	18-28
0.15	45	399	84.1	15.9	12-20
0.075	55	454	95.7	4.3	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 475

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	4	4	0.8	99.2	90-100
9.5	62	66	13.9	86.1	70-88
4.75	112	178	37.5	62.5	53-71
2.36	88	266	56.0	44.0	42-58
1.18	29	295	62.1	37.9	34-48
0.6	11	306	64.4	35.6	26-38
0.3	46	352	74.1	25.9	18-28
0.15	45	397	83.6	16.4	12-20
0.075	55	452	95.2	4.8	4-10

* The results obtained are satisfactory as per standard requirements.

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.
R KARTHIK RECHAN
Authorized Signatory
Quality Manager

End of Report

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WATER TESTING | GEO TECHNICAL | PROJECT MANAGEMENT | SURVEYING SERVICES

TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID : **CP-RW-2023-01-27-01** **Date: 28-01-23**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 27-01-23

Type of Mix : BC (Bituminous Concrete) 2nd A Cross Road, Siddivinayak layout

Date of test : 27-01-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	474.5	474
3	Initial weight of Paper	W3	4.1	4.5
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	1.9	1.5
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	5.48	5.50
7	Average percentage	%	5.49	

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.
R KARTHIK RECHAN
Authorized Signatory
Quality Manager

M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

Lab ID : **CP-RW-2023-01-27-01** **Date: 28-01-23**

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 474.5

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	8	8	1.7	98.3	90-100
9.5	60	68	14.3	85.7	70-88
4.75	110	178	37.5	62.5	53-71
2.36	86	264	55.6	44.4	42-58
1.18	28	292	61.5	38.5	34-48
0.6	10	302	63.6	36.4	26-38
0.3	48	350	73.8	26.2	18-28
0.15	41	391	82.4	17.6	12-20
0.075	62	453	95.5	4.5	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 474

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	5	5	1.1	98.9	90-100
9.5	61	66	13.9	86.1	70-88
4.75	113	179	37.8	62.2	53-71
2.36	89	268	56.5	43.5	42-58
1.18	30	298	62.9	37.1	34-48
0.6	12	310	65.4	34.6	26-38
0.3	47	357	75.3	24.7	18-28
0.15	46	403	85.0	15.0	12-20
0.075	49	452	95.4	4.6	4-10

* The results obtained are satisfactory as per standard requirements.

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.
R KARTHIK RECHAN
Authorized Signatory
Quality Manager

End of Report

Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2023-01-28-01** **Date: 03/02/2023**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 28-01-23

Customer ID : Cement Concrete Pavement -1st Main Road, Siddivinayaka Layout

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M30 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 03/02/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Cement Concrete Pavement -1st Main Road, Siddivinayaka Layout	M30	27/01/2023	03/02/2023	149.89 X 151.19 X 150.89	22661	8.853	578.2	25.5	25.7
2	Cement Concrete Pavement -1st Main Road, Siddivinayaka Layout	M30	27/01/2023	03/02/2023	149.26 X 151.11 X 149.31	22554	8.523	604.7	26.8	
3	Cement Concrete Pavement -1st Main Road, Siddivinayaka Layout	M30	27/01/2023	03/02/2023	151.81 X 150.11 X 149.96	22788	8.572	565.3	24.8	

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.

R KARTHIK RECHAN
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Quality Manager

AEE (VRP)-SD

****End of Report****

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HIGHWAY & BUILDING MATERIALS TESTING LABORATORY | STRUCTURAL | ENVIRONMENTAL
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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2023-01-28-01** **Date: 24/02/2023**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 28-01-23

Customer ID : Cement Concrete Pavement -1st Main Road, Siddivinayaka Layout

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M30 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 24/02/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Cement Concrete Pavement -1st Main Road, Siddivinayaka Layout	M30	27/01/2023	24/02/2023	149.21 X 149.11 X 150.17	22249	8.527	737.7	33.2	33.1
2	Cement Concrete Pavement -1st Main Road, Siddivinayaka Layout	M30	27/01/2023	24/02/2023	150.24 X 151.66 X 150.27	22785	8.961	735.5	32.3	
3	Cement Concrete Pavement -1st Main Road, Siddivinayaka Layout	M30	27/01/2023	24/02/2023	151.76 X 149.48 X 150.43	22686	8.676	770.9	34.0	

* The results obtained are satisfactory as per standard requirements.

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

CIVIL Pro Sig..... Date..... BANGALORE

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

****End of Report****

Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2023-01-28-01** **Date: 03/02/2023**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 28-01-23

Customer ID : Cement Concrete Pavement -1st Main Road, Siddivinayaka Layout

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M30 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 03/02/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen	Cross sectional area	Weight of the sample	Failure Load	Compressive strength	Average Compressive Strength
					(mm)	(Sq.mm)	(kg)	(KN)	(N/mm^2)	(N/mm^2)
1	Cement Concrete Pavement -1st Main Road, Siddivinayaka Layout	M30	27/01/2023	03/02/2023	150.34 X 150.69 X 149.57	22653	8.214	571.6	25.2	25.3
2	Cement Concrete Pavement -1st Main Road, Siddivinayaka Layout	M30	27/01/2023	03/02/2023	151.50 X 151.31 X 150.12	22923	8.310	603.7	26.3	
3	Cement Concrete Pavement -1st Main Road, Siddivinayaka Layout	M30	27/01/2023	03/02/2023	149.85 X 151.24 X 150.06	22664	8.553	552.8	24.4	

* The results obtained are satisfactory as per standard requirements.

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

AEE (VRP) SD

CIVIL Pro Sig..... Date..... BANGALORE

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R KARTHIK RECHAN
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****End of Report****

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HIGHWAY & BUILDING MATERIALS TESTING LABORATORY | STRUCTURAL | ENVIRONMENTAL
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Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2023-01-28-01** **Date: 24/02/2023**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 28-01-23

Customer ID : Cement Concrete Pavement -1st Main Road, Siddivinayaka Layout

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M30 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 24/02/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Cement Concrete Pavement -1st Main Road, Siddivinayaka Layout	M30	27/01/2023	24/02/2023	150.20 X 151.04 X 149.77	22686	8.186	764.9	33.7	33.2
2	Cement Concrete Pavement -1st Main Road, Siddivinayaka Layout	M30	27/01/2023	24/02/2023	149.53 X 149.86 X 151.93	22408	8.470	721.8	32.2	
3	Cement Concrete Pavement -1st Main Road, Siddivinayaka Layout	M30	27/01/2023	24/02/2023	151.50 X 149.28 X 149.65	22615	8.836	763.0	33.7	

* The results obtained are satisfactory as per standard requirements.

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.

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Certificate No.: TC-5548

Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2023-01-28-01** **Date: 03/02/2023**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 28-01-23

Customer ID : Cement Concrete Pavement -1st Main Road, Siddivinayaka Layout

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M30 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 03/02/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Cement Concrete Pavement -1st Main Road, Siddivinayaka Layout	M30	27/01/2023	03/02/2023	149.64 X 151.96 X 149.30	22739	8.227	576.8	25.4	25.7
2	Cement Concrete Pavement -1st Main Road, Siddivinayaka Layout	M30	27/01/2023	03/02/2023	151.99 X 151.91 X 149.52	23088	8.894	622.0	26.9	
3	Cement Concrete Pavement -1st Main Road, Siddivinayaka Layout	M30	27/01/2023	03/02/2023	151.78 X 149.77 X 150.72	22732	8.178	560.5	24.7	

* The results obtained are satisfactory as per standard requirements.

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

CIVIL Pro
Sig.....
Date.....
BANGALORE

FOR CIVIL Pro.

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

****End of Report****

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HIGHWAY & BUILDING MATERIALS TESTING LABORATORY | STRUCTURAL | ENVIRONMENTAL
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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2023-01-28-01** **Date: 24/02/2023**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 28-01-23

Customer ID : Cement Concrete Pavement -1st Main Road, Siddivinayaka Layout

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M30 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 24/02/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Cement Concrete Pavement -1st Main Road, Siddivinayaka Layout	M30	27/01/2023	24/02/2023	149.31 X 150.12 X 150.82	22414	8.807	760.8	33.9	33.4
2	Cement Concrete Pavement -1st Main Road, Siddivinayaka Layout	M30	27/01/2023	24/02/2023	151.68 X 149.78 X 149.21	22719	8.641	739.6	32.6	
3	Cement Concrete Pavement -1st Main Road, Siddivinayaka Layout	M30	27/01/2023	24/02/2023	151.80 X 151.02 X 149.13	22924	8.291	773.2	33.7	

* The results obtained are satisfactory as per standard requirements.

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

****End of Report****

Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2023-01-28-01** **Date: 03/02/2023**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 28-01-23

Customer ID : Cement Concrete Pavement -1st Main Road, Siddivinayaka Layout

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M30 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 03/02/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Cement Concrete Pavement -1st Main Road, Siddivinayaka Layout	M30	27/01/2023	03/02/2023	149.09 X 151.67 X 149.64	22612	8.463	583.9	25.8	25.8
2	Cement Concrete Pavement -1st Main Road, Siddivinayaka Layout	M30	27/01/2023	03/02/2023	149.77 X 151.54 X 151.83	22696	8.162	605.0	26.7	
3	Cement Concrete Pavement -1st Main Road, Siddivinayaka Layout	M30	27/01/2023	03/02/2023	150.95 X 151.27 X 149.09	22835	8.728	568.2	24.9	

* The results obtained are satisfactory as per standard requirements.

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.

R KARTHIK RECHAN
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Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2023-01-28-01** **Date: 24/02/2023**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 28-01-23

Customer ID : Cement Concrete Pavement -1st Main Road, Siddivinayaka Layout

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M30 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 24/02/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Cement Concrete Pavement -1st Main Road, Siddivinayaka Layout	M30	27/01/2023	24/02/2023	150.71 X 150.94 X 150.39	22749	8.925	753.7	33.1	33.3
2	Cement Concrete Pavement -1st Main Road, Siddivinayaka Layout	M30	27/01/2023	24/02/2023	151.61 X 152.00 X 149.50	23044	9.046	757.3	32.9	
3	Cement Concrete Pavement -1st Main Road, Siddivinayaka Layout	M30	27/01/2023	24/02/2023	149.17 X 149.26 X 150.14	22266	9.023	753.9	33.9	

* The results obtained are satisfactory as per standard requirements.

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

CIVIL Pro Sig..... Date..... BANGALORE

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

****End of Report****

Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2023-01-28-01** **Date: 03/02/2023**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 28-01-23

Customer ID : Cement Concrete Pavement -1st Main Road, Siddivinayaka Layout

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M30 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 03/02/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Cement Concrete Pavement -1st Main Road, Siddivinayaka Layout	M30	27/01/2023	03/02/2023	151.45 X 151.12 X 151.11	22887	8.565	583.7	25.5	25.5
2	Cement Concrete Pavement -1st Main Road, Siddivinayaka Layout	M30	27/01/2023	03/02/2023	149.46 X 149.33 X 149.56	22319	8.974	586.1	26.3	
3	Cement Concrete Pavement -1st Main Road, Siddivinayaka Layout	M30	27/01/2023	03/02/2023	151.28 X 149.76 X 149.27	22655	8.752	563.4	24.9	

* The results obtained are satisfactory as per standard requirements.

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

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****End of Report****

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Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2023-01-28-01** **Date: 24/02/2023**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer's Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 28-01-23

Customer ID : Cement Concrete Pavement -1st Main Road, Siddivinayaka Layout

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M30 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 24/02/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Cement Concrete Pavement -1st Main Road, Siddivinayaka Layout	M30	27/01/2023	24/02/2023	149.62 X 151.22 X 151.75	22626	8.888	750.9	33.2	32.8
2	Cement Concrete Pavement -1st Main Road, Siddivinayaka Layout	M30	27/01/2023	24/02/2023	151.51 X 150.88 X 149.49	22860	8.755	735.3	32.2	
3	Cement Concrete Pavement -1st Main Road, Siddivinayaka Layout	M30	27/01/2023	24/02/2023	151.91 X 149.63 X 151.23	22731	8.244	751.3	33.1	

* The results obtained are satisfactory as per standard requirements.

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****End of Report****

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HIGHWAY & BUILDING MATERIALS TESTING LABORATORY | STRUCTURAL | ENVIRONMENTAL
WATER TESTING | GEO TECHNICAL | PROJECT MANAGEMENT | SURVEYING SERVICES

TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR DBM (IS 2386:(Part 1) 1963 (RA2011)

Lab ID	:	**CP-RW-2023-01-28-01** **Date: 30-01-23**
Project Name	:	Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)
Agency	:	Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024
Customer Reference	:	BBMP/EE/BTP/WO/63/2022-23
Date of Receipt	:	28-01-23
Type of Mix	:	DBM (Dense Bituminous Macadam) Pillappa Layout
Date of test	:	28-01-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	478.5	478
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	5.1	5
5	Increase in weight of Filter Paper	W5=W4-W3	1.1	1
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	4.52	4.60
7	Average percentage	%	4.56	

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WATER TESTING | GEO TECHNICAL | PROJECT MANAGEMENT | SURVEYING SERVICES

Lab ID : **CP-RW-2023-01-28-01** **Date: 30-01-23**

AFTER EXTRACTION(Trail-1)

Weight of Sample(gm) : 478.5

IS Sieve Size(mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Specification Limits as per MORTH specification Table 500-10(grading -2)
37.5	0	0	0	100.0	100
26.5	14.6	14.6	3.05	96.9	90-100
19	25	39.6	8.28	91.7	71-95
13.2	119	158.6	33.15	66.9	56-80
4.75	94	252.6	52.79	47.2	38-54
2.36	82	334.6	69.93	30.1	28-42
0.3	63	397.6	83.09	16.9	7-21
0.075	53	450.6	94.17	5.8	2-8

AFTER EXTRACTION(Trail-2)

Weight of Sample(gm) : 478

IS Sieve Size(mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Specification Limits as per MORTH specification Table 500-10(grading -2)
37.5	0	0	0	100.0	100
26.5	14.5	14.5	3.03	97.0	90-100
19	22	36.5	7.64	92.4	71-95
13.2	121	157.5	32.95	67.1	56-80
4.75	97	254.5	53.24	46.8	38-54
2.36	77	331.5	69.35	30.6	28-42
0.3	61	392.5	82.11	17.9	7-21
0.075	59	451.5	94.46	5.5	2-8

* The results obtained are satisfactory as per standard requirements.

Assistant Executive Engineer
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BBMP, Bangalore

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HIGHWAY & BUILDING MATERIALS TESTING LABORATORY | STRUCTURAL | ENVIRONMENTAL
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TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID : **CP-RW-2023-01-28-01** **Date: 30-01-23**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 28-01-23

Type of Mix : BC (Bituminous Concrete) Pillappa Layout

Date of test : 28-01-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	474	474.5
3	Initial weight of Paper	W3	4.4	4.3
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	1.7	1.7
6	Bitumen percentage	$\frac{W1-W2+W5}{W1}$ X 100	5.54	5.44
7	Average percentage	%	5.49	

Assistant Engineer
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Lab ID : **CP-RW-2023-01-28-01** **Date: 30-01-23**

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 474

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	4	4	0.8	99.2	90-100
9.5	62	66	13.9	86.1	70-88
4.75	112	178	37.6	62.4	53-71
2.36	88	266	56.1	43.9	42-58
1.18	29	295	62.2	37.8	34-48
0.6	11	306	64.6	35.4	26-38
0.3	46	352	74.3	25.7	18-28
0.15	45	397	83.8	16.2	12-20
0.075	55	452	95.4	4.6	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 474.5

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	4	4	0.8	99.2	90-100
9.5	62	66	13.9	86.1	70-88
4.75	112	178	37.5	62.5	53-71
2.36	88	266	56.1	43.9	42-58
1.18	29	295	62.2	37.8	34-48
0.6	11	306	64.5	35.5	26-38
0.3	46	352	74.2	25.8	18-28
0.15	45	397	83.7	16.3	12-20
0.075	55	452	95.3	4.7	4-10

* The results obtained are satisfactory as per standard requirements.

Assistant Executive Engineer
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TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR DBM (IS 2386:(Part 1) 1963 (RA2011)

Lab ID	:	**CP-RW-2023-01-29-01**	**Date: 31-01-23**
Project Name	:	Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)	
Agency	:	Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024	
Customer Reference	:	BBMP/EE/BTP/WO/63/2022-23	
Date of Receipt	:	29-01-23	
Type of Mix	:	DBM (Dense Bituminous Macadam) Ganesh nagar, 7th A Cross Road	
Date of test	:	30-01-23	

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	478.5	479
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	5.1	5.5
5	Increase in weight of Filter Paper	W5=W4-W3	1.1	1.5
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	4.52	4.50
7	Average percentage	%	4.51	

CIVIL Pro Sig..... Date..... BANGALORE

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Lab ID : **CP-RW-2023-01-29-01** **Date: 31-01-23**

AFTER EXTRACTION(Trail-1)

Weight of Sample(gm) : 478.5

IS Sieve Size(mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Specification Limits as per MORTH specification Table 500-10(grading -2)
37.5	0	0	0	100.0	100
26.5	14.2	14.2	2.97	97.0	90-100
19	24	38.2	7.98	92.0	71-95
13.2	118	156.2	32.64	67.4	56-80
4.75	93	249.2	52.08	47.9	38-54
2.36	81	330.2	69.01	31.0	28-42
0.3	61	391.2	81.76	18.2	7-21
0.075	63	454.2	94.92	5.1	2-8

AFTER EXTRACTION(Trail-2)

Weight of Sample(gm) : 479

IS Sieve Size(mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Specification Limits as per MORTH specification Table 500-10(grading -2)
37.5	0	0	0	100.0	100
26.5	14.9	14.9	3.11	96.9	90-100
19	20	34.9	7.29	92.7	71-95
13.2	120	154.9	32.34	67.7	56-80
4.75	98	252.9	52.80	47.2	38-54
2.36	76	328.9	68.66	31.3	28-42
0.3	60	388.9	81.19	18.8	7-21
0.075	66	454.9	94.97	5.0	2-8

* The results obtained are satisfactory as per standard requirements.

Assistant Executive Engineer
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CIVIL Pro Sig..... Date..... BANGALORE

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HIGHWAY & BUILDING MATERIALS TESTING LABORATORY | STRUCTURAL | ENVIRONMENTAL
WATER TESTING | GEO TECHNICAL | PROJECT MANAGEMENT | SURVEYING SERVICES

TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR DBM (IS 2386:(Part 1) 1963 (RA2011)

Lab ID	:	**CP-RW-2023-01-29-01** **Date: 31-01-23**
Project Name	:	Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)
Agency	:	Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024
Customer Reference	:	BBMP/EE/BTP/WO/63/2022-23
Date of Receipt	:	29-01-23
Type of Mix	:	DBM (Dense Bituminous Macadam) GaneshNagar, 6th Cross Road
Date of test	:	30-01-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	478.0	479
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	5	5.7
5	Increase in weight of Filter Paper	W5=W4-W3	1	1.7
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	4.60	4.54
7	Average percentage	%	4.57	

Assistant Executive Engineer
Kodigehalli Sub Division
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Lab ID : **CP-RW-2023-01-29-01** **Date: 31-01-23**

AFTER EXTRACTION(Trail-1)

Weight of Sample(gm) : 478.0

IS Sieve Size(mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Specification Limits as per MORTH specification Table 500-10(grading -2)
37.5	0	0	0	100.0	100
26.5	13.8	13.8	2.89	97.1	90-100
19	25	38.8	8.12	91.9	71-95
13.2	119	157.8	33.01	67.0	56-80
4.75	94	251.8	52.68	47.3	38-54
2.36	82	333.8	69.83	30.2	28-42
0.3	63	396.8	83.01	17.0	7-21
0.075	55	451.8	94.52	5.5	2-8

AFTER EXTRACTION(Trail-2)

Weight of Sample(gm) : 479

IS Sieve Size(mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Specification Limits as per MORTH specification Table 500-10(grading -2)
37.5	0	0	0	100.0	100
26.5	14.3	14.3	2.99	97.0	90-100
19	19	33.3	6.95	93.0	71-95
13.2	118	151.3	31.59	68.4	56-80
4.75	96	247.3	51.63	48.4	38-54
2.36	73	320.3	66.87	33.1	28-42
0.3	63	383.3	80.02	20.0	7-21
0.075	70	453.3	94.63	5.4	2-8

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

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HIGHWAY & BUILDING MATERIALS TESTING LABORATORY | STRUCTURAL | ENVIRONMENTAL
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TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID : **CP-RW-2023-01-31-01** **Date: 01-02-23**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 31-01-23

Type of Mix : BC (Bituminous Concrete) Ganesh nagar, 7th A Cross Road

Date of test : 31-01-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	473.5	474.5
3	Initial weight of Paper	W3	4	4.3
4	Final weight of Paper	W4	5.1	6
5	Increase in weight of Filter Paper	W5=W4-W3	1.1	1.7
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	5.52	5.44
7	Average percentage	%	5.48	

CIVIL Pro Sig..... Date..... BANGALORE

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R KARTHIK RECHAN
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Quality Manager

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Lab ID : **CP-RW-2023-01-31-01** **Date: 01-02-23**

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 473.5

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	6	6	1.3	98.7	90-100
9.5	64	70	14.8	85.2	70-88
4.75	115	185	39.1	60.9	53-71
2.36	84	269	56.8	43.2	42-58
1.18	30	299	63.1	36.9	34-48
0.6	10	309	65.3	34.7	26-38
0.3	44	353	74.6	25.4	18-28
0.15	46	399	84.3	15.7	12-20
0.075	52	451	95.2	4.8	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 474.5

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	7	7	1.5	98.5	90-100
9.5	61	68	14.3	85.7	70-88
4.75	110	178	37.5	62.5	53-71
2.36	85	263	55.4	44.6	42-58
1.18	30	293	61.7	38.3	34-48
0.6	12	305	64.3	35.7	26-38
0.3	47	352	74.2	25.8	18-28
0.15	46	398	83.9	16.1	12-20
0.075	55	453	95.5	4.5	4-10

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

End of Report

AEE (VRP) SD

TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID : **CP-RW-2023-01-31-01** **Date: 01-02-23**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 31-01-23

Type of Mix : BC (Bituminous Concrete) Ganesh Nagar, 8th B Cross Road

Date of test : 31-01-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	473.5	473
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	5	4.9
5	Increase in weight of Filter Paper	W5=W4-W3	1	0.9
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	5.50	5.58
7	Average percentage	%	5.54	

CIVIL Pro Sig..... Date..... BANGALORE

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Authorized Signatory
Quality Manager

AEE (VRP) SD

Lab ID : **CP-RW-2023-01-31-01** **Date: 01-02-23**

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 473.5

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	5	5	1.1	98.9	90-100
9.5	63	68	14.4	85.6	70-88
4.75	113	181	38.2	61.8	53-71
2.36	83	264	55.8	44.2	42-58
1.18	28	292	61.7	38.3	34-48
0.6	12	304	64.2	35.8	26-38
0.3	42	346	73.1	26.9	18-28
0.15	43	389	82.2	17.8	12-20
0.075	60	449	94.8	5.2	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 473

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	7	7	1.5	98.5	90-100
9.5	61	68	14.4	85.6	70-88
4.75	110	178	37.6	62.4	53-71
2.36	85	263	55.6	44.4	42-58
1.18	30	293	61.9	38.1	34-48
0.6	12	305	64.5	35.5	26-38
0.3	47	352	74.4	25.6	18-28
0.15	46	398	84.1	15.9	12-20
0.075	55	453	95.8	4.2	4-10

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

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TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID : **CP-RW-2023-01-31-01** **Date: 01-02-23**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 31-01-23

Type of Mix : BC (Bituminous Concrete) Ganesh Nagar, 8th C Cross Road

Date of test : 31-01-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	475	474
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	5.3
5	Increase in weight of Filter Paper	W5=W4-W3	2	1.3
6	Bitumen percentage	$\frac{W1-W2+W5}{W1}$ X 100	5.40	5.46
7	Average percentage	%	5.43	

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Lab ID : **CP-RW-2023-01-31-01** **Date: 01-02-23**

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 475

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	6	6	1.3	98.7	90-100
9.5	62	68	14.3	85.7	70-88
4.75	111	179	37.7	62.3	53-71
2.36	82	261	54.9	45.1	42-58
1.18	27	288	60.6	39.4	34-48
0.6	11	299	62.9	37.1	26-38
0.3	45	344	72.4	27.6	18-28
0.15	42	386	81.3	18.7	12-20
0.075	68	454	95.6	4.4	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 474

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	8	8	1.7	98.3	90-100
9.5	60	68	14.3	85.7	70-88
4.75	109	177	37.3	62.7	53-71
2.36	83	260	54.9	45.1	42-58
1.18	28	288	60.8	39.2	34-48
0.6	14	302	63.7	36.3	26-38
0.3	47	349	73.6	26.4	18-28
0.15	46	395	83.3	16.7	12-20
0.075	55	450	94.9	5.1	4-10

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

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Quality Manager

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End of Report

TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID : **CP-RW-2023-02-01-01** **Date: 02-02-23**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 01-02-23

Type of Mix : BC (Bituminous Concrete) Ganesh Nagar, 8th A Cross Road

Date of test : 01-02-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	473.5	473
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	5.3	5
5	Increase in weight of Filter Paper	W5=W4-W3	1.3	1
6	Bitumen percentage	$\frac{W1-W2+W5}{W1}$ X 100	5.56	5.60
7	Average percentage	%	5.58	

CIVIL Pro Sig..... Date..... BANGALORE

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Quality Manager

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Lab ID : **CP-RW-2023-02-01-01** **Date: 02-02-23**

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 473.5

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	22	22	4.6	95.4	90-100
9.5	56	78	16.5	83.5	70-88
4.75	112	190	40.1	59.9	53-71
2.36	78	268	56.6	43.4	42-58
1.18	32	300	63.4	36.6	34-48
0.6	26	326	68.8	31.2	26-38
0.3	53	379	80.0	20.0	18-28
0.15	30	409	86.4	13.6	12-20
0.075	32	441	93.1	6.9	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 473

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	8	8	1.7	98.3	90-100
9.5	75	83	17.5	82.5	70-88
4.75	119	202	42.7	57.3	53-71
2.36	59	261	55.2	44.8	42-58
1.18	32	293	61.9	38.1	34-48
0.6	26	319	67.4	32.6	26-38
0.3	63	382	80.8	19.2	18-28
0.15	22	404	85.4	14.6	12-20
0.075	45	449	94.9	5.1	4-10

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

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TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID : **CP-RW-2023-02-01-01** **Date: 02-02-23**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 01-02-23

Type of Mix : BC (Bituminous Concrete) 6th Cross Road, Ganesh Nagar

Date of test : 01-02-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	474	474.5
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	5.6	5.5
7	Average percentage	%	5.6	

CIVIL Pro Sig..... Date..... BANGALORE

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Quality Manager

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Lab ID : **CP-RW-2023-02-01-01** **Date: 02-02-23**

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 474

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	22	22	4.6	95.4	90-100
9.5	56	78	16.5	83.5	70-88
4.75	112	190	40.1	59.9	53-71
2.36	78	268	56.5	43.5	42-58
1.18	32	300	63.3	36.7	34-48
0.6	26	326	68.8	31.2	26-38
0.3	53	379	80.0	20.0	18-28
0.15	30	409	86.3	13.7	12-20
0.075	32	441	93.0	7.0	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 474.5

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	36	36	7.6	92.4	90-100
9.5	86	122	25.7	74.3	70-88
4.75	85	207	43.6	56.4	53-71
2.36	41	248	52.3	47.7	42-58
1.18	22	270	56.9	43.1	34-48
0.6	30	300	63.2	36.8	26-38
0.3	75	375	79.0	21.0	18-28
0.15	16	391	82.4	17.6	12-20
0.075	55	446	94.0	6.0	4-10

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

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TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID : **CP-RW-2023-02-01-01** **Date: 02-02-23**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 01-02-23

Type of Mix : BC (Bituminous Concrete) 8th Cross Road, Ganesh Nagar

Date of test : 01-02-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	474	473.5
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	5.2	5
5	Increase in weight of Filter Paper	W5=W4-W3	1.2	1
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	5.44	5.50
7	Average percentage	%	5.47	

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Lab ID : **CP-RW-2023-02-01-01** **Date: 02-02-23**

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 474

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	32	32	6.8	93.2	90-100
9.5	45	77	16.2	83.8	70-88
4.75	123	200	42.2	57.8	53-71
2.36	62	262	55.3	44.7	42-58
1.18	38	300	63.3	36.7	34-48
0.6	22	322	67.9	32.1	26-38
0.3	48	370	78.1	21.9	18-28
0.15	38	408	86.1	13.9	12-20
0.075	30	438	92.4	7.6	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 473.5

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	36	36	7.6	92.4	90-100
9.5	49	85	18.0	82.0	70-88
4.75	96	181	38.2	61.8	53-71
2.36	69	250	52.8	47.2	42-58
1.18	53	303	64.0	36.0	34-48
0.6	25	328	69.3	30.7	26-38
0.3	49	377	79.6	20.4	18-28
0.15	20	397	83.8	16.2	12-20
0.075	40	437	92.3	7.7	4-10

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

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TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID : **CP-RW-2023-02-02-01** **Date: 03-02-23**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 02-02-23

Type of Mix : BC (Bituminous Concrete) 8th Cross Road, Ganesh Nagar

Date of test : 02-02-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	474	474.5
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	5.2	5.8
5	Increase in weight of Filter Paper	W5=W4-W3	1.2	1.8
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	5.44	5.46
7	Average percentage	%	5.45	

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Lab ID : **CP-RW-2023-02-02-01** **Date: 03-02-23**

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 474

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	30	30	6.3	93.7	90-100
9.5	44	74	15.6	84.4	70-88
4.75	121	195	41.1	58.9	53-71
2.36	60	255	53.8	46.2	42-58
1.18	37	292	61.6	38.4	34-48
0.6	23	315	66.5	33.5	26-38
0.3	47	362	76.4	23.6	18-28
0.15	37	399	84.2	15.8	12-20
0.075	38	437	92.2	7.8	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 474.5

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	36	36	7.6	92.4	90-100
9.5	49	85	17.9	82.1	70-88
4.75	96	181	38.1	61.9	53-71
2.36	69	250	52.7	47.3	42-58
1.18	53	303	63.9	36.1	34-48
0.6	25	328	69.1	30.9	26-38
0.3	49	377	79.5	20.5	18-28
0.15	20	397	83.7	16.3	12-20
0.075	40	437	92.1	7.9	4-10

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

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Quality Manager

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AEE (VRP) SD

TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR DBM
(IS 2386:(Part 1) 1963 (RA2011)

Lab ID	:	**CP-RW-2023-02-07-01**	**Date: 08-02-23**
Project Name	:	Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)	
Agency	:	Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024	
Customer Reference	:	BBMP/EE/BTP/WO/63/2022-23	
Date of Receipt	:	07-02-23	
Type of Mix	:	DBM (Dense Bituminous Macadam) 11th Cross Road, Ganesh Nagar	
Date of test	:	07-02-23	

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	478.0	478.5
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	4.9	5.2
5	Increase in weight of Filter Paper	W5=W4-W3	0.9	1.2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	4.58	4.54
7	Average percentage	%	4.56	

CIVIL Pro Sig..... Date..... BANGALORE

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WATER TESTING | GEO TECHNICAL | PROJECT MANAGEMENT | SURVEYING SERVICES

Lab ID : **CP-RW-2023-02-07-01** **Date: 08-02-23**

AFTER EXTRACTION(Trail-1)

Weight of Sample(gm) : 478.0

IS Sieve Size(mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Specification Limits as per MORTH specification Table 500-10(grading -2)
37.5	0	0	0	100.0	100
26.5	13	13	2.72	97.3	90-100
19	26	39	8.16	91.8	71-95
13.2	118	157	32.85	67.2	56-80
4.75	92	249	52.09	47.9	38-54
2.36	80	329	68.83	31.2	28-42
0.3	66	395	82.64	17.4	7-21
0.075	55	450	94.14	5.9	2-8

AFTER EXTRACTION(Trail-2)

Weight of Sample(gm) : 478.5

IS Sieve Size(mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Specification Limits as per MORTH specification Table 500-10(grading -2)
37.5	0	0	0	100.0	100
26.5	14.3	14.3	2.99	97.0	90-100
19	19	33.3	6.96	93.0	71-95
13.2	118	151.3	31.62	68.4	56-80
4.75	96	247.3	51.68	48.3	38-54
2.36	73	320.3	66.94	33.1	28-42
0.3	63	383.3	80.10	19.9	7-21
0.075	70	453.3	94.73	5.3	2-8

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.
R KARTHIK RECHAN
Authorized Signatory
Quality Manager

End of Report

AEE (VRP) ...

TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID : **CP-RW-2023-02-07-01** **Date: 08-02-23**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 07-02-23

Type of Mix : BC (Bituminous Concrete) 11th Cross Road, Ganesh Nagar

Date of test : 07-02-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	475	474.5
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	5.8
5	Increase in weight of Filter Paper	W5=W4-W3	2	1.8
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	5.40	5.46
7	Average percentage	%	5.43	

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

AEE (VRP) SD

Lab ID : **CP-RW-2023-02-07-01** **Date: 08-02-23**

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 475

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	30	30	6.3	93.7	90-100
9.5	45	75	15.8	84.2	70-88
4.75	120	195	41.1	58.9	53-71
2.36	59	254	53.5	46.5	42-58
1.18	38	292	61.5	38.5	34-48
0.6	24	316	66.5	33.5	26-38
0.3	46	362	76.2	23.8	18-28
0.15	36	398	83.8	16.2	12-20
0.075	46	444	93.5	6.5	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 474.5

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	36	36	7.6	92.4	90-100
9.5	49	85	17.9	82.1	70-88
4.75	96	181	38.1	61.9	53-71
2.36	69	250	52.7	47.3	42-58
1.18	53	303	63.9	36.1	34-48
0.6	25	328	69.1	30.9	26-38
0.3	49	377	79.5	20.5	18-28
0.15	20	397	83.7	16.3	12-20
0.075	45	442	93.2	6.8	4-10

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

End of Report

AEE (VRP) SD

DETERMINATION OF RATE OF SPREAD TACK COAT

Lab ID : **CP-RW-2023-01-27-01** **Date: 28-01-23**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 27-01-23

Type of Mix : Tack coat

Date of test : 27-01-23

Sl.No	Determination	Unit	TEST 1	TEST 2
1	Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30
2	Area of Plate (a)	Sq.mtr	0.09	0.09
3	Initial Wt of empty Plate (b)	Kg	0.78	0.748
4	Final weight of plate after application of tack Coat (c)	Kg	0.803	0.771
5	Weight of tack Coat (d=c-b)	Kg	0.023	0.023
6	Rate of spread of tack coat	Kg/sq.m	0.256	0.256
7	Average	Kg/sq.m	0.256	
8	Specified Limit	Kg/sq.m	0.250 Kg/sq.m	

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.
R KARTHIK RECHAN
Authorized Signatory
Quality Manager

End of Report

AEE (VRP) SD

DETERMINATION OF RATE OF SPREAD TACK COAT

Lab ID : **CP-RW-2023-01-27-01** **Date: 28-01-23**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 27-01-23

Type of Mix : Tack coat

Date of test : 27-01-23

Sl.No	Determination	Unit	TEST 1	TEST 2
1	Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30
2	Area of Plate (a)	Sq.mtr	0.09	0.09
3	Initial Wt of empty Plate (b)	Kg	0.78	0.748
4	Final weight of plate after application of tack Coat (c)	Kg	0.803	0.771
5	Weight of tack Coat (d=c-b)	Kg	0.023	0.023
6	Rate of spread of tack coat	Kg/sq.m	0.256	0.256
7	Average	Kg/sq.m	0.256	
8	Specified Limit	Kg/sq.m	0.250 Kg/sq.m	

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

End of Report

AEE (VRP) SD

DETERMINATION OF RATE OF SPREAD TACK COAT

Lab ID : **CP-RW-2023-01-28-01** **Date: 29-01-23**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 28-01-23

Type of Mix : Tack coat

Date of test : 28-01-23

Sl.No	Determination	Unit	TEST 1	TEST 2
1	Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30
2	Area of Plate (a)	Sq.mtr	0.09	0.09
3	Initial Wt of empty Plate (b)	Kg	0.78	0.748
4	Final weight of plate after application of tack Coat (c)	Kg	0.803	0.771
5	Weight of tack Coat (d=c-b)	Kg	0.023	0.023
6	Rate of spread of tack coat	Kg/sq.m	0.256	0.256
7	Average	Kg/sq.m	0.256	
8	Specified Limit	Kg/sq.m	0.250 Kg/sq.m	

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.
R KARTHIK RECHAN
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Quality Manager

End of Report

AEE (VRP) SD

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HIGHWAY & BUILDING MATERIALS TESTING LABORATORY | STRUCTURAL | ENVIRONMENTAL
WATER TESTING | GEO TECHNICAL | PROJECT MANAGEMENT | SURVEYING SERVICES

DETERMINATION OF RATE OF SPREAD TACK COAT

Lab ID	:	**CP-RW-2023-01-31-01** **Date: 01-02-23**
Project Name	:	Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)
Agency	:	Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024
Customer Reference	:	BBMP/EE/BTP/WO/63/2022-23
Date of Receipt	:	31-01-23
Type of Mix	:	Tack coat
Date of test	:	31-01-23

Sl.No	Determination	Unit	TEST 1	TEST 2
1	Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30
2	Area of Plate (a)	Sq.mtr	0.09	0.09
3	Initial Wt of empty Plate (b)	Kg	0.78	0.748
4	Final weight of plate after application of tack Coat (c)	Kg	0.803	0.771
5	Weight of tack Coat (d=c-b)	Kg	0.023	0.023
6	Rate of spread of tack coat	Kg/sq.m	0.256	0.256
7	Average	Kg/sq.m	0.256	
8	Specified Limit	Kg/sq.m	0.250 Kg/sq.m	

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.
R KARTHIK RECHAN
Authorized Signatory
Quality Manager

End of Report

AEE (VRP) SD

DETERMINATION OF RATE OF SPREAD TACK COAT

Lab ID : **CP-RW-2023-01-31-01** **Date: 01-02-23**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 31-01-23

Type of Mix : Tack coat

Date of test : 31-01-23

Sl.No	Determination	Unit	TEST 1	TEST 2
1	Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30
2	Area of Plate (a)	Sq.mtr	0.09	0.09
3	Initial Wt of empty Plate (b)	Kg	0.78	0.748
4	Final weight of plate after application of tack Coat (c)	Kg	0.803	0.771
5	Weight of tack Coat (d=c-b)	Kg	0.023	0.023
6	Rate of spread of tack coat	Kg/sq.m	0.256	0.256
7	Average	Kg/sq.m	0.256	
8	Specified Limit	Kg/sq.m	0.250 Kg/sq.m	

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.
R KARTHIK RECHAN
Authorized Signatory
Quality Manager

End of Report

AEE (VRP) SD

DETERMINATION OF RATE OF SPREAD TACK COAT

Lab ID	:	**CP-RW-2023-01-31-01**	**Date: 04-01-23**
Project Name	:	Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)	
Agency	:	Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024	
Customer Reference	:	BBMP/EE/BTP/WO/63/2022-23	
Date of Receipt	:	03-01-23	
Type of Mix	:	Tack coat	
Date of test	:	03-01-23	

Sl.No	Determination	Unit	TEST 1	TEST 2
1	Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30
2	Area of Plate (a)	Sq.mtr	0.09	0.09
3	Initial Wt of empty Plate (b)	Kg	0.78	0.748
4	Final weight of plate after application of tack Coat (c)	Kg	0.803	0.771
5	Weight of tack Coat (d=c-b)	Kg	0.023	0.023
6	Rate of spread of tack coat	Kg/sq.m	0.256	0.256
7	Average	Kg/sq.m	0.256	
8	Specified Limit	Kg/sq.m	0.250 Kg/sq.m	

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.
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End of Report

AEE (VRP) SD

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DETERMINATION OF RATE OF SPREAD TACK COAT

Lab ID : **CP-RW-2023-02-01-01** **Date: 02-02-23**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 01-02-23

Type of Mix : Tack coat

Date of test : 01-02-23

Sl.No	Determination	Unit	TEST 1	TEST 2
1	Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30
2	Area of Plate (a)	Sq.mtr	0.09	0.09
3	Initial Wt of empty Plate (b)	Kg	0.78	0.748
4	Final weight of plate after application of tack Coat (c)	Kg	0.803	0.771
5	Weight of tack Coat (d=c-b)	Kg	0.023	0.023
6	Rate of spread of tack coat	Kg/sq.m	0.256	0.256
7	Average	Kg/sq.m	0.256	
8	Specified Limit	Kg/sq.m	0.250 Kg/sq.m	

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.

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Quality Manager

End of Report

AEE (VRP) SD

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DETERMINATION OF RATE OF SPREAD TACK COAT

Lab ID : **CP-RW-2023-02-01-01** **Date: 02-02-23**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 01-02-23

Type of Mix : Tack coat

Date of test : 01-02-23

Sl.No	Determination	Unit	TEST 1	TEST 2
1	Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30
2	Area of Plate (a)	Sq.mtr	0.09	0.09
3	Initial Wt of empty Plate (b)	Kg	0.78	0.748
4	Final weight of plate after application of tack Coat (c)	Kg	0.803	0.771
5	Weight of tack Coat (d=c-b)	Kg	0.023	0.023
6	Rate of spread of tack coat	Kg/sq.m	0.256	0.256
7	Average	Kg/sq.m	0.256	
8	Specified Limit	Kg/sq.m	0.250 Kg/sq.m	

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.
R KARTHIK RECHAN
Authorized Signatory
Quality Manager

End of Report

AEE (VRP) SD

DETERMINATION OF RATE OF SPREAD TACK COAT

Lab ID : **CP-RW-2023-02-01-01** **Date: 02-02-23**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 01-02-23

Type of Mix : Tack coat

Date of test : 01-02-23

Sl.No	Determination	Unit	TEST 1	TEST 2
1	Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30
2	Area of Plate (a)	Sq.mtr	0.09	0.09
3	Initial Wt of empty Plate (b)	Kg	0.78	0.748
4	Final weight of plate after application of tack Coat (c)	Kg	0.803	0.771
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CIVIL Pro Sig..... Date..... BANGALORE

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

End of Report

AEE (VRP) SD

DETERMINATION OF RATE OF SPREAD TACK COAT

Lab ID : **CP-RW-2023-02-02-01** **Date: 03-02-23**

Project Name : Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)

Agency : Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024

Customer Reference : BBMP/EE/BTP/WO/63/2022-23

Date of Receipt : 02-02-23

Type of Mix : Tack coat

Date of test : 02-02-23

Sl.No	Determination	Unit	TEST 1	TEST 2
1	Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30
2	Area of Plate (a)	Sq.mtr	0.09	0.09
3	Initial Wt of empty Plate (b)	Kg	0.78	0.748
4	Final weight of plate after application of tack Coat (c)	Kg	0.803	0.771
5	Weight of tack Coat (d=c-b)	Kg	0.023	0.023
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* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

End of Report

AEE (VRP) SD

DETERMINATION OF RATE OF SPREAD TACK COAT

Lab ID	:	**CP-RW-2023-02-07-01** **Date: 08-02-23**
Project Name	:	Improvements to Roads an Drains at Virupakshapura, Budha Jyothi Layout, Kodigehalli, Maruthi Layout and Surrounding areas in ward No.09 (Vidyaranyapura)
Agency	:	Sri.K Shankar Reddy, No:18, K-No 370, 414, 413, 188, Bhuvaneshwarinagara, Bangalore-560024
Customer Reference	:	BBMP/EE/BTP/WO/63/2022-23
Date of Receipt	:	07-02-23
Type of Mix	:	Tack coat
Date of test	:	07-02-23

Sl.No	Determination	Unit	TEST 1	TEST 2
1	Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30
2	Area of Plate (a)	Sq.mtr	0.09	0.09
3	Initial Wt of empty Plate (b)	Kg	0.78	0.748
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